State of California

THE RESOURCES AGENCY

Department of Water Resources

BULLETIN No. 130-63

HYDROLOGIC DATA: 1963

Volume II: NORTHEASTERN CALIFORNIA

Appendix D: SURFACE WATER QUALITY

Appendix E: GROUND WATER QUALITY

APRIL 1965

HUGO FISHER
Administrator
The Resources Agency

EDMUND G. BROWN
Governor
State of California

WILLIAM E. WARNE
Director
Department of Water Resources

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ORGANIZATION OF BULLETIN NO. 130 SERIES

Volume I - NORTH COASTAL AREA

Volume II - NORTHEASTERN CALIFORNIA

Volume III - CENTRAL COASTAL AREA

Volume IV - SAN JOAQUIN VALLEY

Volume V - SOUTHERN CALIFORNIA

Each volume consists of the following:

TEXT and

Appendix A - CLIMATE

Appendix B - SURFACE WATER FLOW

Appendix C - GROUND WATER MEASUREMENTS

Appendix D - SURFACE WATER QUALITY

Appendix E - GROUND WATER QUALITY

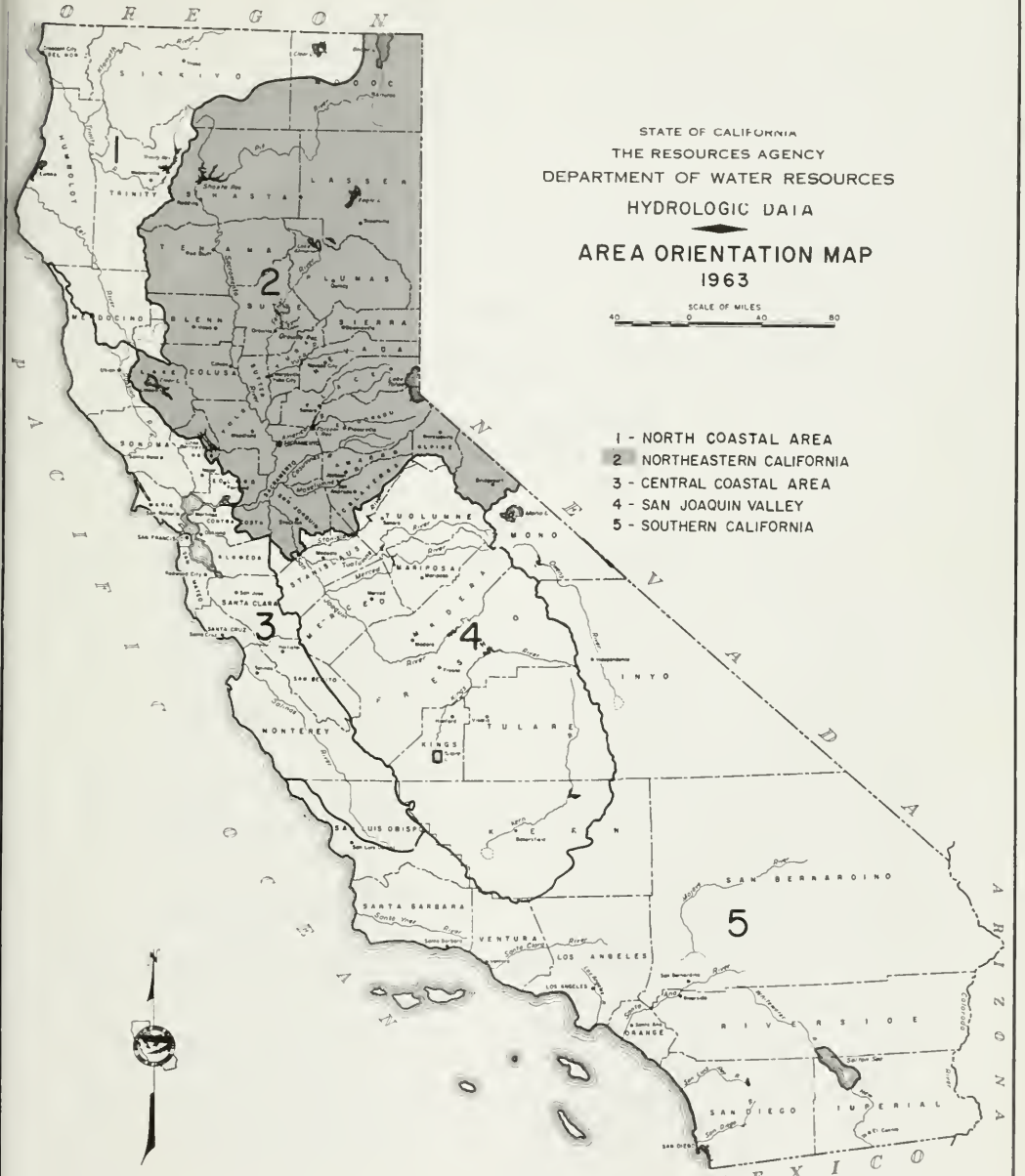
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
HYDROLOGIC DATA
AREA ORIENTATION MAP
1963
SCALE OF MILES
40 0 40 80
1 - NORTH COASTAL AREA
2 - NORTHEASTERN CALIFORNIA
3 - CENTRAL COASTAL AREA
4 - SAN JOAQUIN VALLEY
5 - SOUTHERN CALIFORNIA
OREGON
NEVADA
ARIZONA
MEXICO
PACIFIC OCEAN
SISKIYOU
MODOC
HUMBOLDT
TRINITY
SHASTA
LASSEN
TEHAMA
PLUMAS
MENDOCINO
BUTTE
SIERRA
GLENN
COLUSA
NEVADA
SONOMA
PLACER
YUBA
SUTTER
YOLO
NAPA
SOLANO
EL DORADO
ALPINE
AMADOR
CALAVERAS
TUOLUNME
MONO
MARIN
CONTRA COSTA
ALAMEDA
STANISLAUS
MARIPOSA
MADERA
FRESNO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
INYO
MONTEREY
KINGS
TULARE
SAN LUIS OBISPO
KERN
SAN BERNARDINO
SANTA BARBARA
VENTURA
LOS ANGELES
ORANGE
RIVERSIDE
SAN DIEGO
IMPERIAL

TABLE OF CONTENTS

FIGURES

TABLES

PLATES
(Bound at end of Appendix E)

Appendix D

SURFACE WATER QUALITY

The Surface Water Quality Data Program provides basic information about quality characteristics of the State's surface waters. Data presented in this appendix are measured values of the chemical, physical, and radiological characteristics of surface water in Northeastern California, as shown on Figure 1, "Area Orientation Map". The surface water quality program is performed in cooperation with other state, local, and federal agencies.

All data presented in this volume are within Water Pollution Control Board Regions Nos. 5 and 6. Surface water quality data are presented alphabetically by station name as listed in Tables D-1 and D-2, "Sampling Station Data and Index". Plate D-2 shows the location of stream sampling stations. Surface water quality samples are collected at or near tide or stream gaging stations.

The Surface Water Quality Data Program consists of selecting locations to be sampled, collection of samples by department personnel or cooperators, laboratory analysis by an assigned agency, examination of the data to note trends or significant changes, and publication of the data and findings.

Field sampling is performed in accordance with accepted engineering practice. Comments on local conditions are noted in the field books but are not included in the tabulations.

Chemical analyses of surface water samples were performed by the U. S. Geological Survey (USGS) in accordance with USGS Water Supply Paper 1454, "Methods for Collection and Analysis of Water Samples". In addition several analyses were made by the U.S. Bureau of Reclamation in Denver, Colorado and were furnished to the Department.

Figures 2 and 3 show average daily conductance at Stations 27 and 98. This data are obtained by continously recording conductance on a strip chart. Hourly values obtained from this chart are averaged. The average value for the day is shown on the Figures.

The compilation of the chemical analyses are reported in Tables D-3 and D-4. Water Temperature is reported in degrees Fahrenheit and is measured in the field at time of sampling. Dissolved oxygen is also measured in the field at time of sampling. Electrical conductivity is reported as micromhos per centimeters at 25°C. Tabulated values for dissolved minerals are the analytical quantity reported in parts per million (ppm) and a computed value for equivalents per million (epm).

Bacteriologic determinations were made by the California Department of Public Health, Berkeley, and are expressed as the most probable number (MPN) of coliform bacteria per milliliter of sample. These values are given in Tables D-3 and D-4 in the next to the last column on the right side of the sheets. In view of the rapidity and frequency of change in the density of coliform organisms, frequent and lengthy sampling is necessary before a truly reliable evaluation could be made.

Heavy metal analysis of surface water samples, performed by spectrograph by the USGS, is reported in parts per billion (ppb) and listed in Tables D-5 and D-6, "Spectrographic Analyses of Surface Water".

Analyses for radioactivity were made by the California Disaster Office Laboratory in Sacramento and results are expressed in terms of activity, measured in micromicrocuries per liter which is equivalent to picocuries per liter. The most probable error is reported along with the measured value. The results of these analyses are listed in Tables D-7 and D-8, "Radioassays of Surface Water".

A program of organic sampling was begun in 1962 and all results since inception of the program are reported in Table D-9. The organic samples are composited using carbon absorption techniques. Results of organic analyses are reported in micrograms per liter (essentially parts per billion).

Salinity Observations

Table D-10 lists the salinity sampling stations within the Sacramento-San Joaquin Delta. The stations are referenced to the Golden Gate as mile zero and proceeding upstream through the bay systems to the delta area. The salinity samples are taken, when possible, at four-day intervals one and one-half hours after high-high tide. Salinity concentrations are reported as chloride in parts per million. The location of these stations are shown on Plate D-1, "Lines of Annual Maximum Salinity Encroachment". The maximum annual encroachment of 1000 parts chloride per million parts of water represents the line of salinity encroachment. The lines on Plate D-1 show the 1000 part chloride line for the current water year and other water years of historical interest. Table D-11 lists the maximum observed chlorides for stations during the current year and the historical maximum values for these stations. Complete tabulation of salinity observations made for the water year are given in Table D-12.

The Salinity Observation program is conducted by the Department of Water Resources for the U. S. Bureau of Reclamation under an annual contract.

AVERAGE DAILY SPECIFIC CONDUCTANCE SAN JOAQUIN RIVER NEAR VERNALIS (STA. 27)

OCTOBER 1962 THROUGH SEPTEMBER 1963

FIGURE 2

AVERAGE DAILY SPECIFIC CONDUCTANCE SACRAMENTO RIVER AT WALNUT GROVE (STA. 98)

OCTOBER 1962 THROUGH SEPTEMBER 1963

FIGURE 3

TABLE D-1

SAMPLING STATION DATA AND INDEX

CENTRAL VALLEY REGION (NO. 5)

Station	Station Number	Location[a]	Period[b] of Record	Frequency[c] of Sampling	Sampled[d] by	Analysis on page
American River at Fair Oaks	22d	9N/6E-13	1-38	Q	USBR	D-11
American River, Middle Fork near Auburn	22b	12N/9E-6	7-58	B	DWR	D-12, D-127
American River at Nimbus Dam	22a	9N/7E-16	11-58	M	DWR	D-13, D-123, D-127
American River at Sacramento	22	8N/5E-3	4-51 9-62	M A	DWR DWR	D-14, D-123, D-127 D-135
American River, South Fork near Lotus	22c	11N/9E-11	7-58	B	DWR	D-15, D-127
Antelope Creek near Mouth	88c	26N/2W-17	10-58	M	DWR	D-16, D-127
Antelope Creek near Red Bluff	88e	27N/2W-8	10-58	M	DWR	D-17, D-127
Battle Creek near Cottonwood	88b	29N/3W-1	4-58	M	DWR	D-18, D-127
Bear River near Mouth	20b	13N/4E-20	11-58 to 7-63	M	DWR	D-19, D-127
Bear River near Wheatland	78	13N/5E-3	12-51	M	DWR	D-20, D-123, D-127
Big Chico Creek at Chico	85a	22N/1E-28	1-59	M	DWR	D-21, D-127
Big Chico Creek near Chico	85	22N/2E-9	7-52	M	DWR	D-22
Butte Creek near Chico	84	22N/2E-36	7-52	M	DWR	D-23
Cache Creek near Capay	80	10N/2W-8	12-51	M	DWR	D-24, D-123, D-127
Cache Creek at Highway 53	42a	13N/7W-34	6/62	S	DWR	D-135
Cache Creek near Lower Lake	42	12N/6W-6	4-51	M	DWR	D-25, D-123, D-128, D-135
Cache Creek, North Fork near Lower Lake	79	14N/6W-31	12-51	M	DWR	D-26, D-128
Cache Slough below Lindsey Slough	110a	5N/3E-31	4-52	Q	USBR	D-27
Calaveras River at Jenny Lind	16a	3N/10E-27	4-51	M	DWR	D-28, D-128
Calaveras River near Stocktoo	16b	2N/6E-26	7-58	M	DWR	D-29, D-123, D-128
Clear Creek near Igo	12d	31N/6W-27	8-58	M	DWR	D-30, D-128
Clear Lake at Lakeport	41	14N/10W-24	4/51	M	DWR	D-31, D-123, D-128
Clear Lake at Nice	41a	15N/9W-27	6-62 to 9-62	S	DWR	D-135
Colusa Trough near Colusa	87	16N/2W-34	7-62	M	DWR	D-32, D-128
Contra Costa Canal at 1st Pump Lift	109a	2N/2E-25	1-55	M	USBR	D-33
Cosumnes River at McConnell	94a	6N/6E-20	7-58	B	DWR	D-34, D-123, D-128
Cosumnes River at Michigan Bar	94	8N/8E-36	7-52	B	DWR	D-35, D-128
Cottonwood Creek near Cottonwood	12b	29N/3W-7	4-51	M	DWR	D-36, D-128
Cottonwood Creek below North Fork Cottonwood Creek	11a	29N/6W-2	8-58	M	DWR	D-37, D-128
Cottonwood Creek, South Fork above Cottonwood Creek	11b	29N/4W-17	11-58	M	DWR	D-38, D-129
Cow Creek near Millville	88a	31N/3W-32	8-58	M	DWR	D-39, D-129
Delta Cross Channel near Walnut Grove	98	5N/4E-35	9-52	M	DWR	D-1,[e] D-40, D-123
Dutch Slough at Farrar Park Bridge	108b	2N/3E-22	5-55	I	USBR	D-41
Elder Creek at Gerber	95a	25N/3W-2	1-59	M	DWR	D-42, D-129
Elder Creek near Paskenta	13e	25N/6W-14	8-58	M	DWR	D-43, D-129
False River at Webb Pump	112a	3N/3E-36	5-55	I	USBR	D-44
Feather River, Middle Fork near Merrimac	19b	21N/6E-2	7-63	M	DWR	D-45, D-123, D-129
Feather River at Nicolaus	20	12N/3E-12	4-51	M	DWR	D-46, D-123, D-129
Feather River, North Fork at Big Bar	19a	23N/5E-32	7-63	M	DWR	D-47, D-123, D-129

a Except as indicated below location is referenced to Mt. Diablo Base and Meridian
"Humboldt Base and Meridian
""San Bernardino Base and Meridian
b Beginning of record
c M-Monthly, B-Bimonthly, Q-Quarterly, S-Semiannually, A - Annually, I - Irregular
d
e Sacramento River at Walnut Grove

TABLE D-1

SAMPLING STATION DATA AND INDEX

CENTRAL VALLEY REGION (NO. 5)

Station	Station Number	Location[a]	Period[b] of Record	Frequency[c] of Sampling	Sampled[d] by	Analysis on page
Feather River near Oroville	19	19N/4E-2	4-51	M	DWR	D-48, D-123, D-129
Feather River below Shanghi Bend	20a	14N/3E-11	7-58	M	DWR	D-49, D-129
Feather River, South Fork below Ponderosa Dam	19c	20N/6E-33	7-63	M	DWR	D-50, D-123, D-129
Feather River above Verona	20c	12N/3E-27	7-62	S	DWR	D-135
Grant Line Canal at Tracy Road Bridge	103a	1S/5E-29	7-58	M	DWR	D-51
Indian Creek near Crescent Mills	17d	26N/9E-25	4-51	B	DWR	D-52, D-129
Indian Slough near Brentwood	107	1N/3E-23	9-52	M	DWR	D-53, D-129
Italian Slough near Mouth	106	1S/4E-7	9-52	M	DWR	D-54, D-130
Lindsey Slough near Rio Vista	110	5N/2E-25	10-52	M	DWR	D-55
Little Potato Slough at Terminous	99	3N/4E-13	9-52	B	DWR	D-56, D-130
McCloud River above Shasta Lake	18	36N/3W-31	4-51	M	DWR	D-57, D-130
Mill Creek near Mouth	88	25N/2W-9	7-52	M	DWR	D-58
Mokelumne River below Cosumnes River	23b	5N/5E-29	6-52	I	USBR	D-59
Mokelumne River below Georgiana Slough	23c	3N/4E-7	5-52	I	USBR	D-60
Mokelumne River near Lancha Plana	23a	4N/10E-4	4-51	B	DWR	D-61, D-130
Mokelumne River at Woodbridge	23	4N/6E-34	4-51	B	DWR	D-62, D-123, D-130
Old River at Clifton Court Ferry	104	1S/4E-20	9-52	M	DWR	D-63, D-130
Old River at Holland Tract	108a	2N/4E-19	3-52	M	USBR	D-64
Old River at Mandeville Island	112	2N/4E-6	12-54	M	DWR	D-65, D-123
Old River at Orwood Bridge	108	1N/4E-17	9-52	M	DWR	D-66, D-130
Old River near Tracy	103	2S/5E-6	10-52	M	DWR	D-67, D-130
Paynes Creek near Red Bluff	88g	28N/2W-3	10-58	M	DWR	D-68, D-130
Pit River near Bieber	17e	37N/7E-34	10-58	M	DWR	D-69, D-130
Pit River near Canby	17a	41N/9E-10	4-51	M	DWR	D-70, D-123, D-130
Pit River near Montgomery Creek	17	35N/1E-32	4-51	M	DWR	D-71, D-131
Pit River, South Fork near Likely	18a	39N/13E-11	8-58	M	DWR	D-72, D-131
Putah Creek at Diversion to Putah South Canal	81a	8N/1W-31	7-62	S	DWR	D-135
Putah Creek near Winters	81	8N/2W-27	12-51	M	DWR	D-73, D-123, D-131
R. D. 1000 at Second Bannon Slough	15d	9N/4E-27	9-62	A	DWR	D-135
Red Bank Creek near Red Bluff	88d	26N/5W-22	1-59	M	DWR	D-74, D-131
Rock Slough near Knightsen	109	2N/3E-33	9-52	M	DWR	D-75, D-131
Sacramento River at Bend	12c	28N/3W-20	5-55 5-55 to 7-63	M D	DWR USGS	D-76, D-123, D-131 D-77, 78, 79
Sacramento River at Boyer's Bend	14c	13N/1E-22	6-60 to 7-63	D	USGS	D-80, 81
Sacramento River at Butte City	87a	19N/1W-32	5-55 5-55 to 7-63	M D	DWR USGS	D-82, D-131 D-83, 84, 85
Sacramento River at Colusa	13b	19N/1W-32	10-58	M	DWR	D-86, D-124, D-131
Sacramento River above Colusa Trough	14b	11N/2E-14	7-60	M	DWR	D-87, D-124, D-131
Sacramento River at Delta	11	36N/5W-35	4-51	M	DWR	D-88, D-131
Sacramento River at Freeport	15b	7N/4E-14	6-60 6-60 to 7-63	M D	DWR USGS	D-89, D-124, D-131 D-90, 91

a Except as indicated below location is referenced to Mt Diablo Base and Meridian
*Humboldt Base and Meridian
**San Bernardino Base and Meridian

b Beginning of record

c M - Monthly, B - Bimonthly, Q - Quarterly, S - Semiannually, A - Annually, I - Irregular, D - Composite of Samples Collected Daily

d

TABLE D-1

SAMPLING STATION DATA AND INDEX

CENTRAL VALLEY REGION (NO. 5)

Station	Station Number	Location[a]	Period[b] of Record	Frequency[c] of Sampling	Sampled[d] by	Analysis on page
Sacramento River near Hamilton City	13	22N/1W-20	4-51	M	DWR	D-92, D-124, D-132
Sacramento River at Keswick	12	32N/5W-28	4-51	M	DWR	D-93, D-124, D-132
Sacramento River near Mallard Slough	15c	2N/1E-5	3-55	M	USBR	D-94
Sacramento River at Rio Vista	16	4N/3E-30	4-51	M	DWR	D-95, D-124, D-132
Sacramento River above Sacramento Slough	15e	11N/3E-32	7-62	A	DWR	D-135
Sacramento River at Snodgrass Slough	97	6N/4E-22	6-38	M	USBR	D-96
Sacramento River at Toland Landing	15a	3N/2E-21	6-52	I	USBR	D-97
Sacramento Slough near Knights Landing	14a	11N/2E-20	6-51	M	DWR	D-98, D-132
San Joaquin River at Antioch	28	2N/2E-18	4-51	M	DWR	D-99, D-132
San Joaquin River at Brandt Bridge	1D1a	1S/6E-9	3-57	Q	USBR	D-100
San Joaquin River at Garwood Bridge	1D1	1N/6E-16	9-52	M	DWR	D-101
San Joaquin River at Jersey Point	28b	2N/3E-6	7-52	I	USBR	D-102
San Joaquin River at Mossdale Bridge	102	2A/6E-4	9-52	M	DWR	D-103, D-132, D-135
San Joaquin River at San Andreas Landing	112b	3N/3E-13	3-52	M	USBR	D-104
San Joaquin River near Vernalis	27	3S/6E-13	12-61	Daily		D-3
Stockton Ship Channel on Rindge Island	100	2N/5E-28	9-52	M	DWR	D-105
Stony Creek at Black Butte Dam Site	13c	23N/4W-29	1-58	M	DWR	D-106, D-132
Stony Creek near Hamilton City	13a	22N/2W-36	4-51	M	DWR	D-107, D-124, D-132
Thomes Creek near Mouth	95b	25N/3W-35	1-59	M	DWR	D-108, D-132
Thomes Creek at Paskenta	13d	23N/6W-4	10-58	M	DWR	D-109, D-132
Yuba River at Marysville	21	15N/4E-18	4-51	B	DWR	D-110, D-124, D-132
Yuba River near Smartville	21a	16N/6E-20	4-51	B	DWR	D-111, D-132

a Except as indicated below location is referenced to Mt. Diablo Base and Meridian
*Humboldt Base and Meridian
**San Bernardino Base and Meridian

b Beginning of record

c M - Monthly, B - Bimonthly, Q - Quarterly, S - Semiannually, A - Annually, I - Irregular

d

TABLE D-2

SAMPLING STATION DATA AND INDEX

LAHONTAN REGION (NO. 6)

Station	Station Number	Location[a]	Period[b] of Record	Frequency[c] of Sampling	Sampled[d] by	Analysis on page
Carson River, East Fork near Markleeville	115	10N/20E-27	9-58	B	DWR	D-113, D-133
Carson River, West Fork at Woodfords	115a	11N/19E-34	8-58	B	DWR	D-114, D-133
Lake Tahoe at Bijou	39	13N/18E-33	4-51 to 7-63	M	DWR	D-115, D-133
Lake Tahoe at Tahoe City	38	15N/17E-7	4-51	B	DWR	D-116, D-125, D-133
Lake Tahoe at Tahoe Vista	37	16N/17E-14	4-51 to 7-63	M	DWR	D-117, D-133
Susan River at Susanville	17b	30N/12E-31	4-51	M	DWR	D-118, D-133
Truckee River near Farad	53	18N/17E-12	4-51	M	DWR	D-119, D-125, D-133
Truckee River near Truckee	52	17N/16E-28	4-51	B	DWR	D-120, D-133
Walker River, East near Bridgeport	116A	6N/25E-34	8-58	B	DWR	D-121, D-133
Walker River, West near Coleville	116	6N/23E-9	8-58	B	DWR	D-122, D-133

a Except as indicated below location is referenced to Mt Diablo Base and Meridian
*Humboldt Base and Meridian
''San Bernardino Base and Meridian
b Beginning of record
c M-Monthly, B-Bimonthly, Q-Quarterly, S-Semiannually
d

TABLE [illegible]

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

AMERICAN RIVER AT FAIR OAKS (STA. 22d)

parts per million

Total	Per		Tur bid	Coliform	Analyzed

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

AMERICAN RIVER AT FAIR OAKS (STA. 22d)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH [b]	Mineral constituents in parts per million / equivalents per million												Total dissolved solids [e] in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform [h] MPN/ml	Analyzed by [i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents			Total ppm	N.C. ppm			
1962																									
10/2 0930		68			44	7.1	4.8	1.2	2.1	0.0	0.0	21	2.4	0.7	0.0					42	21					USBR
1963																									
1/9 0930		46			60	7.2	9.2	0.0	2.5	0.8	0.0	16.0	4.8	3.6	0.0					56	19					
4/3 1030		49			68	7.6	5.6	2.7	2.3	1.2	0.0	29	6.2	2.1	0.0					48	16					
7/1 1500		58			51	7.6	5.0	2.2	1.4	0.8	0.0	17	4.8	1.4	0.0					60	12					

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

AMERICAN RIVER, MIDDLE FORK NEAR AUBURN (STA. 22b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH (a) / (b)	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluorids (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N C ppm	Turbidity in ppm	Coliform (h) MPN/ml	Analyzed by (i)
1962																										
10/2 1015	43	69	9.1	102	100	7.3 / 7.6	0.80 (c)		4.7 / 0.20		0 / 0.00	45 / 0.74		6.0 / 0.17			0.1			73 (e)	20	40	3	8	Median 5.	USGS
11/7 1200	480	54	10.8	102	71	7.3 / 7.3	0.58 (c)		2.7 / 0.12		0 / 0.00	33 / 0.54		2.2 / 0.06			0.0			52 (e)	17	29	2	3	Maximum 620.	
12/3 1435	5000	49	12.1	107	47	7.0 / 7.0	0.34 (c)		2.4 / 0.10		0 / 0.00	20 / 0.33		3.0 / 0.08			0.0			34 (e)	23	17	1	4	Minimum 0.06	
1963																										
1/14 1255	290	37	13.9	104	70	7.0 / 7.6	0.55 (c)		2.6 / 0.11		0 / 0.00	32 / 0.52		3.0 / 0.08			0.0			51 (e)	17	28	2	1		
2/7 1225	3500 (est.)	50	11.8	106	44	7.1 / 7.4	0.33 (c)		1.9 / 0.08		0 / 0.00	21 / 0.34		2.8 / 0.08			0.0			32 (e)	20	16	0	7		
3/18 1015	736	45	12.5	106	61	7.1 / 7.5	0.49 (c)		2.5 / 0.11		0 / 0.00	29 / 0.48		3.4 / 0.10			0.0			44 (e)	18	25	1	1		
4/16 1030	5900	47	12.5	108	52	7.1 / 7.7	0.40 (c)		2.2 / 0.10		0 / 0.00	25 / 0.41		1.0 / 0.03			0.0			38 (e)	20	20	0	9		
5/15 1000	3670	54	11.6	110	39	7.1 / 7.2	4.0 / 0.20	1.1 / 0.09	1.9 / 0.08	0.4 / 0.01	0 / 0.00	20 / 0.33	1.0 / 0.02	1.0 / 0.03	1.2 / 0.02	0.0 / 0.00	0.0	14	PO_4 0.00	35 (e)	21	14	0	5		
6/3 0855	3470	56	10.8	105	35	6.9 / 7.3	0.36 (c)		1.9 / 0.08		0 / 0.00	17 / 0.28		1.1 / 0.03			0.0			25 (e)	18	18	4	5		
7/8 0945	650 MD (est.)	69	8.9	100	55	7.1 / 7.6	0.43 (c)		2.2 / 0.10		0 / 0.00	26 / 0.43		1.8 / 0.05			0.0			40 (e)	19	21	0	1		
9/12 1015	100 MD (est.)	75	8.5	102	95	/ 7.8	11 / 0.55	2.9 / 0.24	3.5 / 0.15	1.2 / 0.03	0 / 0.00	42 / 0.69	6.0 / 0.12	4.0 / 0.11	0.6 / 0.01	0.1 / 0.01	0.0	12	As 0.01 ABS 0.0 Fe .10	62 (f) 63 (g)	15	40	6	1		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO.5)

AMERICAN RIVER AT NIMBUS DAM (STA. 22a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonates (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N C ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
							equivalents per million																			
1962																										
10/2 0815	1330	64	9.9	104	128	7.1 / 7.3	1.02[c]		4.0 / 0.17		0 / 0.00	42 / 0.69		18 / 0.51			0.0			85[e]	14	51	17	10	Median 62.	USGS
11/7 1010	2930	57	9.0	87	58	6.9 / 7.1	0.50[c]		2.1 / 0.09		0 / 0.00	26 / 0.43		1.8 / 0.05			0.0			39[e]	15	25	4	8	Maximum 7000.	
12/3 1100	2460	56	9.9	94	196	7.1 / 7.7	1.55[c]		6.1 / 0.27		0 / 0.00	60 / 0.98		29 / 0.82			0.0			131[e]	15	78	29	3	Min'mum 0.62	
1963																										
1/14 0855	2450	46	11.4	95	181	7.0 / 7.8	1.46[c]		5.1 / 0.22		0 / 0.00	58 / 0.95		26 / 0.73			0.0			129[g]	13	73	25	5		
2/7 1015	7790	49	12.5	109	51	7.1 / 7.0	0.42[c]		1.9 / 0.08		0 / 0.00	24 / 0.39		3.4 / 0.10			0.0			36[e]	16	21	1	40		
3/18 0845	1770	50	11.0	97	59	7.3 / 7.7	0.50[c]		2.4 / 0.10		0 / 0.00	30 / 0.49		3.0 / 0.08			0.0			42[e]	17	25	0	20		
4/16 0900	5020	52	10.8	98	69	7.1 / 7.8	0.56[c]		2.4 / 0.10		0 / 0.00	34 / 0.56		1.5 / 0.04			0.1			49[e]	15	28	0	15		
5/15 0800	5410	55	11.3	106	64	7.3 / 7.4	7.9 / 0.39	1.6 / 0.13	2.1 / 0.09	0.8 / 0.02	0 / 0.00	30 / 0.49	1.4 / 0.03	2.0 / 0.06	0.7 / 0.01	0.1 / 0.01	0.0	13	AS 0.00 ABS 0.0 PO_4 0.10	45[f] 48[g]	14	26	1	2		
6/3 0720	8220	54	11.5	107	57	6.8 / 7.4	0.52[c]		2.2 / 0.10		0 / 0.00	27 / 0.44		1.8 / 0.05			0.0			41[e]	16	26	4	10		
7/8 0815	3330	61	9.7	98	61	6.9 / 7.3	0.48[c]		2.2 / 0.10		0 / 0.00	28 / 0.46		3.2 / 0.09			0.0			48[e]	17	24	1	2		
8/6 0850	3500	63	8.7	90	52	7.0 / 7.1	0.43[c]		2.1 / 0.09		0 / 0.00	24 / 0.39		2.0 / 0.06			0.0			37[e]	17	22	2	1		
9/12 0825	3010	69	8.2	91	56	/ 7.5	5.4 / 0.27	1.9 / 0.16	2.4 / 0.10	1.0 / 0.03	0 / 0.00	24 / 0.39	2.6 / 0.05	1.2 / 0.03	5.8 / 0.09	0.1 / 0.01	0.0	12	AS 0.01 ABS 0.0 PO_4 0.10	44[f] 45[g]	18	22	2	2		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

AMERICAN RIVER AT SACRAMENTO (STA. 22)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Mineral constituents in equivalents per million						Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat		a/b	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)			Total ppm	N C ppm			
1962																																			
10/2 0705		67	8.6	93	52	7.1 / 7.3	0.36[c]		2.6 / 0.11		0 / 0.00	22 / 0.36		4.0 / 0.11			0.0													37[f]	23	18	0	10	Median 23.	USGS
11/7 0900		57	9.1	88	54	7.0 / 7.0	0.43[c]		1.8 / 0.08		0 / 0.00	24 / 0.39		1.8 / 0.05			0.0													38[f]	16	22	2	10	Maximum 620.	
12/3 1000		55	9.7	91	58	7.1 / 7.3	0.46[c]		2.6 / 0.11		0 / 0.00	26 / 0.43		2.8 / 0.08			0.0													41[e]	19	23	2	4	Minimum 0.62	
1963																																			
1/14 0810	Not Rated	45	11.1	92	63	7.0 / 7.4	0.56[c]		2.3 / 0.10		0 / 0.00	29 / 0.48		4.5 / 0.13			0.0													45[e]	15	28	4	5		
2/7 0915		49	11.9	103	53	7.1 / 6.9	0.43[c]		1.9 / 0.08		0 / 0.00	24 / 0.39		3.2 / 0.09			0.1													38[e]	16	21	1	40		
3/8 0800		48	11.0	94	61	7.3 / 7.7	0.50[c]		2.5 / 0.11		0 / 0.00	29 / 0.48		2.8 / 0.08			0.0													43[e]	18	25	1	25		
4/16 0800		49	10.8	94	69	7.1 / 7.7	0.58[c]		2.6 / 0.11		0 / 0.00	34 / 0.56		1.7 / 0.05			0.1													49[e]	16	29	1	18		
5/15 0700		53	10.6	97	64	7.3 / 7.2	7.2 / 0.36	2.4 / 0.20	2.4 / 0.10	0.5 / 0.01	0 / 0.00	32 / 0.52	3.2 / 0.07	1.6 / 0.05	0.3 / 0.00	0.2 / 0.01	0.0	13												AS PO_4 0.00 / 0.05 ABS 0.0	47[f] 50[g]	15	28	2	6		
6/3 0625		55	10.8	102	58	7.1 / 7.4	0.50[c]		2.4 / 0.10		0 / 0.00	28 / 0.46		1.1 / 0.03			0.0													41[e]	17	25	2	10		
7/8 0645		58	9.5	93	53	6.9 / 7.3	0.42[c]		2.2 / 0.10		0 / 0.00	26 / 0.43		1.4 / 0.04			0.0													38[e]	19	21	0	3		
8/6 0745		63	9.0	93	55	7.1 / 7.4	0.44[c]		2.4 / 0.10		0 / 0.00	28 / 0.46		1.0 / 0.03			0.0													39[e]	19	22	0	1		
9/12 0710		67	8.0	87	58	/ 7.2	5.8 / 0.29	1.9 / 0.16	2.4 / 0.10	0.8 / 0.02	0 / 0.00	26 / 0.43	2.8 / 0.06	1.6 / 0.05	5.6 / 0.09	0.0 / 0.00	0.0	12												AS PO_4 0.01 / 0.10 ABS 0.0	46[f] 48[g]	18	23	2	2		

a Field pH.

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

AMERICAN RIVER, SOUTH FORK NEAR LOTUS (STA. 22c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/2 1100	381	63	9.7	102	44	7.2 / 7.3	0.32[c]		2.6 / 0.11		0 / 0.00	20 / 0.33		4.7 / 0.13			0.1			34[e]	26	16	0	10	Median 6.2	USGS
11/7 1335	257	54	11.2	106	52	7.3 / 7.1	0.42[c]		2.9 / 0.13		0 / 0.00	24 / 0.39		2.5 / 0.07			0.0			40[e]	24	21	1	2	Maximum 7000.	
12/3 1310	886	49	11.3	101	106	7.3 / 7.4	0.89[c]		4.2 / 0.18		0 / 0.00	50 / 0.82		2.3 / 0.06			0.0			82[e]	17	45	4	4	Minimum 0.62	
1963																										
1/14 1110	148	35	14.2	103	94	7.1 / 7.6	0.79[c]		3.6 / 0.16		0 / 0.00	44 / 0.72		5.0 / 0.14			0.0			73[e]	18	37	1	1		
2/7 1400	1620	53	11.3	106	49	7.1 / 7.6	0.36[c]		2.6 / 0.11		0 / 0.00	23 / 0.38		2.6 / 0.07			0.0			38[e]	23	18	0	9		
3/18 1200	460	46	12.4	106	73	7.3 / 7.6	0.58[c]		3.5 / 0.15		0 / 0.00	35 / 0.57		4.2 / 0.12			0.0			57[e]	21	29	0	2		
4/16 1215	2790	47	11.5	100	68	7.1 / 7.6	0.54[c]		2.7 / 0.12		0 / 0.00	35 / 0.57		1.2 / 0.03			0.0			53[e]	18	27	0	25		
5/15 1200	2120	57	11.0	108	48	7.3 / 7.5	4.2 / 0.21	1.7 / 0.14	2.8 / 0.12	0.5 / 0.01	0 / 0.00	24 / 0.39	1.0 / 0.02	1.5 / 0.04	0.8 / 0.01	0.1 / 0.01	0.1	17	PO_4 0.00	42[f] 43[g]	25	18	0	10		
6/3 1010	3510	54	10.9	101	28	6.9 / 7.2	0.24[c]		1.9 / 0.08		0 / 0.00	14 / 0.23		0.9 / 0.03			0.0			22[e]	25	12	1	10		
7/8 1045	564	63	9.3	98	45	7.1 / 7.5	0.32[c]		2.4 / 0.10		0 / 0.00	23 / 0.38		1.8 / 0.05			0.0			35[e]	24	16	0	4		
9/12 1150	195	72	8.9	104	54	/ 7.3	5.6 / 0.28	2.3 / 0.19	2.7 / 0.12	0.5 / 0.01	0 / 0.00	24 / 0.39	1.0 / 0.02	3.2 / 0.09	0.8 / 0.01	0.0 / 0.00	0.0	12	AS 0.00 ABS 0.0 PO_4 0.00	40[f] 40[g]	20	23	3	1		

a Field pH.

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

ANTELOPE CREEK NEAR MOUTH (STA. 88c)

Date and time sampled P.S.T.	Discharge in cfs Est. by sampler	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
1962																										USGS
10/1 1000	20	65	7.8	82	287	7.4 / 7.8	1.82[c]		21 / 0.91		0 / 0.00	107 / 1.75		27 / 0.76			0.7				33	91	3	30		
11/1 1130	10	60	8.8	88	241	7.4 / 7.8	2.00[c]		13 / 0.57		0 / 0.00	134 / 2.20		9.6 / 0.27			0.0				22	100	0	5		
12/10 1150	7	49	10.9	95	177	7.3 / 8.2	1.43[c]		9.3 / 0.40		0 / 0.00	100 / 1.64		6.8 / 0.19			0.0				22	71	0	5		
1963																										
1/4 1240	5	45	11.3	93	168	7.3 / 7.7	1.25[c]		8.7 / 0.38		0 / 0.00	87 / 1.43		8.5 / 0.24			0.0				23	63	0	2		
2/4 1315	70	55	10.6	100	90	7.2 / 7.6	0.73[c]		4.5 / 0.20		0 / 0.00	50 / 0.82		2.2 / 0.06			0.2				22	36	0	5		
3/1 1300	5	55	11.1	104	177	7.3 / 7.8	1.41[c]		9.3 / 0.40		0 / 0.00	91 / 1.49		8.0 / 0.23			0.0				22	70	0	1		
4/5 1320	15	57	10.1	98	122	7.3 / 8.1	0.90[c]		5.9 / 0.26		0 / 0.00	67 / 1.10		4.4 / 0.12			0.1				21	48	0	4		
5/3 1150	15	63	9.6	100	120	7.2 / 7.6	0.2 / 0.46	5.8 / 0.48	6.1 / 0.27	1.2 / 0.03	0 / 0.00	64 / 1.05	2.0 / 0.04	6.2 / 0.17	1.2 / 0.02	0.2 / 0.01	0.0	28	PO_4 0.00	92[f] 88[g]	22	47	11	2		
6/5 1105	8	67	8.6	94	155	7.1 / 7.9	1.09[c]		8.8 / 0.38		0 / 0.00	62 / 1.02		7.0 / 0.20			0.2				26	54	3	10		
7/8 1115	20	70	8.2	91	197	7.0 / 7.9	1.32[c]		13 / 0.57		0 / 0.00	75 / 1.23		13 / 0.37			0.3				30	66	4	10		
8/5 0940	2	73	7.6	88	289	7.2 / 8.3	2.14[c]		15 / 0.65		4 / 0.13	126 / 2.07		8.2 / 0.23			0.6		Tot. alk. 134		23	107	0	6		
9/12 1130	12	68	8.3	92	215	7.4 / 8.1	14 / 0.70	8.5 / 0.70	15 / 0.65	3.4 / 0.09	0 / 0.00	86 / 1.39	13 / 0.27	17 / 0.48	0.9 / 0.01	0.1 / 0.01	0.4	40	PO_4 0.25 As 0.02 ABS 0.00	154[f] 155[g]	30	70	0	15		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0/0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

ANTELOPE CREEK NEAR RED BLUFF (STA. 88e)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1956																										USGS
10/1 1030	24	66	9.2	98	168	7.0 / 8.2	1.23		12 / 0.52		0 / 0.00	92 / 1.51		15 / 0.34			0.2					30	61	0	1		
11/1 1150	41	58	10.3	100	162	7.4 / 8.1	1.18		11 / 0.48		0 / 0.00	87 / 1.43		7.8 / 0.22			0.0					29	54	0	5		
12/7 1315	92	47	11.8	100	110	7.3 / 8.0	0.82		7.3 / 0.32		0 / 0.00	63 / 1.03		4.2 / 0.12			0.0					26	41	0	0.6		
1963																										
1/ 1150	71	44	12.6	103	126	7.4 / 8.0	0.91		8.0 / 0.35		0 / 0.00	69 / 1.13		8.0 / 0.23			0.0					35	45	0	1		
2/ 1235	500	52	11.0	100	69	7.2 / 7.7	0.50		4.3 / 0.19		0 / 0.00	44 / 0.72		3.2 / 0.09			0.0					21	27	0	2		
3/1 1225	81.0	50	11.7	103	116	7.4 / 7.9	0.80		6.1 / 0.27		0 / 0.00	69 / 1.07		6.6 / 0.19			0.0					33	44	0	1		
4/5 1235	175	53	10.9	101	98	7.2 / 8.0	0.77		4.9 / 0.21		0 / 0.00	58 / 0.95		3.0 / 0.08			0.0					21	39	0	2		
5/3 1135	170	57	10.4	101	80	7.4 / 7.9	0.60 / 0.30	0.38 / 0.32	4.3 / 0.19	0.8 / 0.02	0 / 0.00	47 / 0.77	0.0 / 0.00	3.0 / 0.08	0.5 / 0.01	0.2 / 0.01	0.1	24	PO_4 0.00	70[f] 70[g]	20	31	0	2		
6/5 1015	85	65	9.6	102	101	7.4 / 7.7	0.77		2.7 / 0.25		0 / 0.00	76 / 1.92		4.0 / 0.12			0.1					35	38	0	1		
7/ 1215	47	74	9.2	108	135	7.8 / 8.1	1.00		8.6 / 0.37		0 / 0.00	76 / 1.25		6.3 / 0.19			0.1					47	50	0	1		
8/8 1205	14	76	9.0	107	147	7.2 / 8.2	1.04		2.4 / 0.41		0 / 0.00	60 / 1.31		8.0 / 0.23			0.2					28	52	0	3		
9/12 1050	14	69	10.1	112	154	8.1 / 8.3	11 / 0.55	6.9 / 0.57	10 / 0.44	1.5 / 0.04	0 / 0.00	82 / 1.34	2.3 / 0.04	7.8 / 0.22	0.8 / 0.01	0.1 / 0.01	0.1	26	PO_4 0.00 As 0.00 ABS 0.00	116[f] 114[g]	28	56	0	4		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

BATTLE CREEK NEAR COTTONWOOD (STA. 88b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chlorids (Cl)	Nitrate (NO_3)	Fluorids (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										USGS
10/1 1305	217	62	11.2	114	152	7.9 / 8.0	— / 1.15[c]		2.6 / 0.42		0 / 0.00	92 / 1.51		2.8 / 0.08			0.2				27	57	0	10		
11/1 1350	277	57	10.4	100	135	7.5 / 8.0	— / 1.00[c]		7.8 / 0.34		0 / 0.00	81 / 1.33		1.2 / 0.03			0.0				25	50	0			
12/7 1445	380	50	11.4	101	118	7.7 / 8.1	— / 0.90[c]		6.6 / 0.29		0 / 0.00	72 / 1.18		0.5 / 0.01			0.0				24	45	0	3		
1963																										
1/4 0915	355	46	11.7	98	128	7.4 / 7.8	— / 0.98[c]		7.3 / 0.32		0 / 0.00	76 / 1.25		3.5 / 0.10			0.0				25	49	0	2		
2/4 1450	1,060	51	11.1	99	77	7.2 / 7.6	— / 0.58[c]		3.9 / 0.17		0 / 0.00	43 / 0.70		1.0 / 0.03			0.0				23	29	0	9		
3/4 1030	398	47	12.7	108	124	7.5 / 7.9	— / 0.96[c]		6.6 / 0.29		0 / 0.00	75 / 1.23		3.6 / 0.10			0.0				23	48	0	1		
4/5 0850	470	53	10.6	98	118	7.4 / 8.1	— / 0.90[c]		6.3 / 0.27		0 / 0.00	71 / 1.16		2.1 / 0.06			0.0				23	45	0	3		
5/3 0740	990	55	10.1	96	94	7.4 / 7.9	7.2 / 0.36	4.6 / 0.38	5.0 / 0.22	1.5 / 0.04	0 / 0.00	56 / 0.92	0.0 / 0.00	1.5 / 0.04	1.0 / 0.02	0.1 / 0.01	0.0	37	PO_4 0.05	86[f] 82[g]	22	37	0	6		
6/5 1410	510	63	10.1	105	104	7.7 / 8.0	— / 0.83[c]		5.6 / 0.24		0 / 0.00	68 / 1.11		1.2 / 0.03			0.1				22	42	0	1		
7/12 1130	322	65	9.7	103	130	7.3 / 8.2	— / 1.02[c]		7.2 / 0.31		0 / 0.00	70 / 1.29		1.8 / 0.05			0.0				23	51	0	1		
8/2 1140	235	63	10.0	104	137	7.6 / 8.1	— / 1.04[c]		7.4 / 0.32		0 / 0.00	83 / 1.36		1.5 / 0.04			0.2				24	52	0	6		
9/12 0840	300	60	9.7	98	146	7.6 / 8.2	10 / 0.50	7.5 / 0.62	7.8 / 0.34	1.8 / 0.05	0 / 0.00	87 / 1.43	1.0 / 0.02	2.0 / 0.06	0.5 / 0.01	0.1 / 0.01	0.0	45	PO_4 0.10 As 0.00 ABS 0.00	119[f] 115[g]	23	56	0	3		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

BEAR RIVER NEAR MOUTH (STA. 20b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
1962																										
10/1 1550	Not Sampled - - - Dry																									USGS
11/1 0905	140 est.	62	8.9	91	131	7.3 / 7.5	1.08[c]		48 / 0.21		0 / 0.00	56 / 0.92		4.8 / 0.14			0.0			84[e]	16	54	8	4		
12/3 0955	300 est.	51	10.9	97	121	7.3 / 7.0	1.01[c]		3.9 / 0.17		0 / 0.00	51 / 0.84		4.0 / 0.11			0.0			78[e]	14	50	8	55		
1963																										
1/2 0920		39	12.4	94	118	6.9 / 7.6	0.94[c]		4.3 / 0.19		0 / 0.00	52 / 0.85		4.8 / 0.14			0.0			76[e]	17	47	4	15		
2/5 0900		53	8.1	74	96	7.0 / 7.0	0.71[c]		4.7 / 0.20		0 / 0.00	37 / 0.61		4.0 / 0.11			0.0			62[e]	22	36	6	30		
3/5 0830		49	11.0	96	178	7.3 / 8.3	1.52[c]		16 / 0.70	0.7 / 0.02	0 / 0.00	78 / 1.28		5.2 / 0.15			0.02		Zn 0.00	114[e]	31	76	12	20		DWR
4/2 0830		49	10.1	88	110	7.1 / 7.5	0.88[c]		3.8 / 0.17		0 / 0.00	50 / 0.82		4.2 / 0.12			0.0			71[e]	16	44	3	40		
5/9 0730		55	10.6	100	98	7.3 / 7.9	8.8 / 0.44	4.6 / 0.38	3.5 / 0.15	0.6 / 0.02	0 / 0.00	44 / 0.72	7.0 / 0.15	3.5 / 0.10	1.3 / 0.02	0.0 / 0.00	0.0	14	PO_4 0.00	65[f] / 66[g]	15	41	5	50		
6/3 1345		72	8.8	101	132	7.7 / 7.7	1.02[c]		5.9 / 0.26		0 / 0.00	56 / 0.92		7.9 / 0.22			0.0			85[e]	20	51	5	15		
	Study Station Discontinued 6/30/63																									

a Field pH.

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

BEAR RIVER NEAR WHEATLAND (STA. 78)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform MPN/ml h	Analyzed by i
1962																										
10/1 0745	3.6	67	7.6	82	332	6.6 / 7.9	3.05 c		8.6 / 0.37		0 / 0.00	150 / 2.46		15 / 0.42			0.0			210 e	11	152	29	15	Median 6.2	USGS
11/1 1645	214	64	9.8	103	111	7.3 / 7.4	0.90 c		3.8 / 0.17		0 / 0.00	47 / 0.77		3.0 / 0.08			0.0			70 e	16	45	6	8	Maximum 620.	
12/3 0910	4010	51	11.1	99	100	7.3 / 7.3	0.82 c		3.2 / 0.14		0 / 0.00	43 / 0.70		4.4 / 0.12			0.0			63 e	15	41	6	70	Minimum 0.62	
1963																										
1/9 0900	265	40	12.6	97	93	7.1 / 7.4	0.77 c		2.8 / 0.12		0 / 0.00	39 / 0.64		2.8 / 0.08			0.0			59 e	13	38	6	6		
2/5 0945	1560	50	11.5	101	71	7.1 / 7.2	0.57 c		3.2 / 0.14		0 / 0.00	28 / 0.46		4.0 / 0.11			0.0			45 e	20	28	5	90		
3/5 0915	112	49	11.5	100	164	7.4 / 7.9	1.43 c		4.7 / 0.20		0 / 0.00	71 / 1.16		4.7 / 0.13			0.0			104 e	12	71	13	15		
4/2 0915	1170	48	11.9	102	89	7.1 / 7.4	0.74 c		3.0 / 0.13		0 / 0.00	40 / 0.66		2.8 / 0.08			0.0			56 e	15	37	4	30		
5/9 0815	1000	56	10.8	103	95	7.3 / 7.4	9.6 / 0.48	4.4 / 0.36	3.3 / 0.14	0.9 / 0.02	0 / 0.00	42 / 0.69	8.4 / 0.17	3.5 / 0.10	0.1 / 0.00	0.1 / 0.01	0.1	13	AS 0.00 ABS 0.0 PO_4 0.00	64 f / 68 g	14	42	8	10		
6/3 1240	117	73	8.8	102	110	7.5 / 7.9	0.91 c		3.5 / 0.15		0 / 0.00	51 / 0.84		3.2 / 0.09			0.1			70 e	14	46	4	7		
7/9 1240	14	81	8.7	109	232	8.0	2.12 c		6.0 / 0.26		0 / 0.00	107 / 1.75		7.5 / 0.21			0.0			147 e	11	106	18	2		
8/6 1000	12	79	7.9	97	232	7.5 / 8.2	2.24 c		6.1 / 0.27		0 / 0.00	109 / 1.79		3.0 / 0.08			0.0			147 e	11	112	23	2		
9/13 1200	33	75	9.3	110	175	7.6	12 / 0.60	11 / 0.94	4.8 / 0.21	0.8 / 0.02	0 / 0.00	83 / 1.36	13 / 0.27	5.8 / 0.16	6.6 / 0.11	0.0 / 0.00	0.0	14	AS 0.01 ABS 0.0 PO_4 0.15	109 f / 108 g	12	77	9	8		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), mongonese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

BIG CHICO CREEK AT CHICO (STA. 85a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N C ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										USGS
10/17 1330	94	55	9.9	93	120	7.3 / 7.6	1.14[c]		6.7 / 0.29		0 / 0.00	64 / 1.05		5.2 / 0.15			0.2				20	57	5	45		
11/27 1335	94	52	10.7	97	97	7.4 / 7.4	0.75[c]		5.2 / 0.23		0 / 0.00	50 / 0.82		3.5 / 0.10			0.0				23	38	0	20		
12/19 0920	216	50	11.2	99	87	7.3 / 8.0	0.70[c]		3.9 / 0.17		0 / 0.00	50 / 0.82		1.8 / 0.05			0.0				20	35	0	8		
1963																										
1/16 0935	12	35	13.8	99	168	7.5 / 8.1	1.28[c]		10 / 0.44		0 / 0.00	91 / 1.49		9.8 / 0.28			0.0				26	64	0	1		
2/19 1355	55	54	11.0	102	122	7.4 / 7.7	0.96[c]		6.0 / 0.26		0 / 0.00	68 / 1.11		3.2 / 0.09			0.1				21	48	0	8		
3/19 1300	57	51	11.9	106	156	7.6 / 8.1	1.21[c]		8.0 / 0.35		0 / 0.00	84 / 1.38		8.1 / 0.23			0.0				22	60	0	2		
4/16 1500	476	50	11.4	102	74	7.4 / 7.7	0.63[c]		3.5 / 0.15		0 / 0.00	42 / 0.69		0.5 / 0.01			0.0				19	31	0	10		
5/14 1630	87	63	9.4	98	114	7.4 / 7.7	11 / 0.55	5.0 / 0.41	5.4 / 0.23	0.6 / 0.02	0 / 0.00	64 / 1.05	3.0 / 0.06	4.8 / 0.14	0.2 / 0.00	0.0 / 0.00	0.0	33	PO_4 0.00	95[f] 87[g]	19	48	[illegible]	4		
6/3 1520	44	71	8.4	96	151	7.8 / 8.2	1.19[c]		8.8 / 0.38		0 / 0.00	84 / 1.38		6.0 / 0.17			0.2				24	60	[illegible]	16		
7/8 1440	16	75	9.3	110	183	8.1 / 8.2	1.34[c]		11 / 0.48		0 / 0.00	100 / 1.64		8.2 / 0.23			0.1				26	67	[illegible]	1		
8/6 1450	9	80	9.6	119	197	7.7 / 8.3	1.71[c]		13 / 0.57		4 / 0.13	94 / 1.54		10 / 0.28			0.2		Tot. alk. 102		25	86	2	2		
9/10 1510	8	74	9.4	110	205	8.1 / 8.1	16 / 0.80	8.3 / 0.68	14 / 0.61	1.1 / 0.03	0 / 0.00	108 / 1.77	3.0 / 0.06	10 / 0.28	0.5 / 0.01	0.1 / 0.01	0.2	32	PO_4 0.00 As 0.00 ABS 0.00	145[f] 142[g]	29	74	0	1		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0/0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

BIG CHICO CREEK NEAR CHICO (STA. 85)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
1962																										USGS
10/17 1510	160	54	11.0	102	114	7.4 / 7.5	— / 0.92[c]		7.8 / 0.34		0 / 0.00	58 / 0.95		4.0 / 0.11			0.1				27	46	0	35	Median 23.	
11/27 1515	220	52	11.4	104	101	7.5 / 7.6	— / 0.80[c]		5.5 / 0.24		0 / 0.00	54 / 0.89		3.2 / 0.09			0.0				23	40	0	10	Maximum 2,400.	
12/18 1355	990	53	11.2	103	78	7.4 / 7.8	— / 0.64[c]		3.5 / 0.15		0 / 0.00	45 / 0.74		1.8 / 0.05			0.0				19	32	0	7	Minimum .62	
1963																										
1/16 0850	72	37	13.7	101	165	7.3 / 7.9	— / 1.23[c]		2.9 / 0.43		0 / 0.00	86 / 1.41		9.4 / 0.27			0.1				26	42	0	1		
2/19 1220	160	52	11.5	104	114	7.4 / 7.8	— / 0.90[c]		5.7 / 0.25		0 / 0.00	63 / 1.03		3.2 / 0.09			0.6				22	45	0	1		
3/19 1500	93	48	11.8	102	149	7.6 / 8.0	— / 1.17[c]		2.0 / 0.39		0 / 0.00	81 / 1.33		7.4 / 0.21			0.0				25	59	0	1		
4/16 1640	1,040	49	11.7	103	72	7.4 / 7.9	— / 0.61[c]		2.9 / 0.13		0 / 0.00	42 / 0.69		0.4 / 0.01			0.0				18	30	0	10		
5/14 1540	149	59	10.1	101	111	7.5 / 7.9	10 / 0.50	5.1 / 0.42	5.6 / 0.24	0.6 / 0.02	0 / 0.00	64 / 1.03	4.0 / 0.08	4.2 / 0.12	0.3 / 0.00	0.0 / 0.00	0.0	32	PO_4 0.00	93[f] 88[g]	20	46	0	1		
6/4 0900	68	61	9.8	100	150	7.7 / 8.2	— / 1.18[c]		7.6 / 0.33		0 / 0.00	84 / 1.38		5.5 / 0.16			0.1				22	59	0	1		
7/8 1330	48	70	9.1	102	178	8.4 / 8.2	— / 1.34[c]		11 / 0.48		0 / 0.00	97 / 1.59		8.2 / 0.23			0.1				26	67	0	1		
8/6 1600	34	74	8.6	101	195	7.4 / 8.3	— / 1.61[c]		13 / 0.57		2 / 0.07	98 / 1.61		10 / 0.28			0.2		Tot. alk. 106		26	80	0	2		
9/11 0840	30	67	9.2	100	200	7.4 / 8.1	16 / 0.80	8.3 / 0.68	14 / 0.61	0.9 / 0.02	0 / 0.00	107 / 1.75	5.0 / 0.10	10 / 0.28	1.0 / 0.02	0 / 0.00	0.1	32	PO_4 0.00 As 0.00 ABS 0.00	147[f] 143[g]	29	74	0	1		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

BUTTE CREEK NEAR CHICO (STA. 84)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform MPN/ml [h]	Analyzed by [i]
1962																										USGS
10/17 1430	470	53	10.9	100	82	7.4 7.4	0.78 [c]		2.7 0.12		0 0.00	44 0.72		1.0 0.03			0.3				13		3	40	Median 18.	
11/27 1425	490	50	11.0	97	84	7.3 7.6	0.76 [c]		2.6 0.11		0 0.00	47 0.77		1.5 0.04			0.0				14		7	1	Maximum 2,400.	
12/18 1440	1,260	52	10.7	97	74	7.2 7.3	0.64 [c]		1.8 0.08		0 0.00	44 0.72		0.6 0.02			0.0				11		5	1	Minimum 2	
1963																										
1/15 2030	200	38	12.9	97	91	7.2 7.1	0.81 [c]		3.1 0.13		0 0.00	52 0.85		2.6 0.07			0.0				14		4	1	10		
2/19 1305	637	50	11.4	101	79	7.3 7.6	0.69 [c]		2.6 0.11		0 0.00	46 0.75		1.0 0.03			0.0				14		3	1	1		
3/19 1345	335	47	12.0	102	88	7.3 7.6	0.76 [c]		2.2 0.13		0 0.00	52 0.85		2.0 0.06			0.0				14		9	2	2		
4/16 1540	1,750	47	11.4	98	63	7.3 7.7	0.53 [c]		2.2 0.10		0 0.00	36 0.59		0.6 0.02			0.0				16		9	2	20		
5/14 1440	775	55	10.4	99	65	7.3 7.6	7.0 0.35	2.7 0.22	2.4 0.10	0.5 0.01	0 0.00	28 0.62	2.0 0.04	1.5 0.04	0.6 0.01	0.0 0.00	0.0	20	PO_4 1.00	56 [f] 52 [g]	15	28		4		
6/4 0800	98	55	10.2	97	78	7.3 7.8	0.68 [c]		2.8 0.12		0 0.00	45 0.74		0.0 0.00			0.1				15		34	4	5		
7/8 1250	205	66	9.4	101	95	7.3 7.6	0.82 [c]		3.8 0.17		0 0.00	58 0.95		1.0 0.03			0.0				17		41	1	1		
8/6 1520	164	71	9.1	103	101	7.3 8.1	1.00 [c]		3.8 0.17		0 0.00	64 1.05		1.0 0.03			0.0				15		50	1	1		
9/11 0800	146	60	9.8	99	104	7.4 7.9	12 0.60	4.1 0.34	3.3 0.14	0.6 0.02	0 0.00	65 1.07 [e]	0.0 0.00	1.0 0.03	0.2 0.01	0.0 0.00	0.0	21	PO_4 0.00 As 0.00 ABS 0.00	75 [f] 70 [g]	13	47		1		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexovalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CACHE CREEK NEAR CAPAY (STA. 80)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962							equivalents per million																			
10/1 0925	77	66	9.0	97	472	8.3 / 7.9	3.49[c]		1.61		0.00	3.87		0.96			1.2			262[e]	32	175	0	3	Median 23.	USGS
11/1 1020	47	63	9.5	99	765	8.3 / 8.5	5.14[c]		2.96		0.73	4.10		2.88			3.1			425[e]	37	257	16	1	Maximum 7000.	
12/4 1355	285	56	10.5	101	621	8.3 / 8.4	4.21[c]		2.44		0.23	3.95		1.93			3.9			345[e]	37	210	1	10	Minimum 1.3	
1963																										
1/3 0905	105	46	11.4	96	733	8.0 / 8.4	4.88[c]		2.78		0.37	4.43		2.26			2.6			408[e]	36	244	5	2		
2/6 0945	895	55	10.2	97	403	8.0 / 8.1	3.08[c]		1.22		0.00	3.06		0.76			1.0			224[e]	28	154	1	150		a
3/4 0930	240	50	11.3	101	697	7.5 / 8.5	5.20[c]		2.09		0.33	4.75		1.58			1.5			388[e]	29	260	6	3		
4/1 0930	4400	51	10.8	98	305	8.1 / 8.1	2.56[c]		0.61		0.00	2.77		0.28			0.8			170[e]	19	128	0	15		
5/8 0830	361	60	9.3	94	630	8.1 / 8.2	40 / 2.00	38 / 3.13	41 / 1.78	2.4 / 0.06	0 / 0.00	302 / 4.95	42 / 0.87	42 / 1.18	1.1 / 0.02	0.3 / 0.02	1.4	18	AS 0.00 ABS 0.0 PO_4 0.00	375[f] 362[g]	26	257	9	2		
6/3 0815	412	65	9.2	98	455	8.1 / 8.4	3.68[c]		1.22		6 / 0.20	225 / 3.69		26 / 0.73			1.4			253[e]	25	184	0	10		
7/8 0920	379	70	9.3	105	381	8.0	3.12[c]		21 / 0.91		0 / 0.00	206 / 3.38		20 / 0.56			1.1			212[e]	23	156	0	5		
8/5 0900	310	73	7.9	92	372	8.1 / 8.2	3.10[c]		19 / 0.83		0 / 0.00	196 / 3.21		16 / 0.45			1.1			207[e]	21	155	0	10		
9/11 0845	265	72	8.0	92	367	8.0	26 / 1.30	21 / 1.73	18 / 0.78	2.2 / 0.06	0 / 0.00	196 / 3.21	7.4 / 0.15	16 / 0.45	6.0 / 0.10	0.2 / 0.01	1.0	21	AS 0.00 ABS 0.0 PO_4 0.25	216[f] 221[g]	20	152	0	7		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-4

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CACHE CREEK NEAR LOWER LAKE (STA. 42)

TABLE 0-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CACHE CREEK NEAR LOWER LAKE (STA. 42)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents				Total ppm	N.C. ppm			
							equivalents per million																			
1962																										
10/1 1145	45	68	8.5	97	327	8.1 / 7.5	2.82[c]		24 / 1.04		0 / 0.00	198 / 3.25		8.2 / 0.23			1.0			181[e]	27	141	0	15	Median 19.	USGS
11/1 1250	2.7	59	8.0	82	238	7.5 / 7.5	2.04[c]		11 / 0.48		0 / 0.00	128 / 2.10		5.5 / 0.16			0.6			132[e]	19	102	0	10	Maximum 7000.	
12/4 1150	2.8	52	10.1	95	277	7.5 / 7.6	2.32[c]		13 / 0.57		0 / 0.00	141 / 2.31		9.7 / 0.27			0.7			154[e]	20	116	0	9	Minimum 1.3	
1963																										
1/3 1125	2.5	45	11.0	95	285	7.4 / 7.8	2.40[c]		13 / 0.57		0 / 0.00	144 / 2.36		11 / 0.31			0.8			158[e]	19	120	2	25		
2/6 1245	6.6	55	10.3	101	254	7.9 / 7.7	2.18[c]		12 / 0.52		0 / 0.00	139 / 2.28		6.8 / 0.19			0.8			141[e]	19	109	0	50		
3/4 1215	5.4	54	10.9	106	229	7.5 / 8.0	1.92[c]		9.8 / 0.43		0 / 0.00	116 / 1.90		4.8 / 0.14			0.4			127[e]	18	96	1	50		
4/1 1145	2890	50	10.2	95	293	7.7 / 7.7	2.56[c]		11 / 0.48		0 / 0.00	173 / 2.84		7.2 / 0.20			1.0			163[e]	16	128	0	15		
5/8 1100	8.4	57	9.3	93	293	/ 7.7	26 / 1.30	11 / 1.34	12 / 0.52	2.1 / 0.05	0 / 0.00	173 / 2.84	12 / 0.25	6.0 / 0.17	1.6 / 0.03	0.3 / 0.02	0.9	16	AS 0.01 ABS 0.0 PO_4 0.20	178[f] / 179[g]	16	132	0	5		
6/3 1045	302	67	8.6	97	284	7.9 / 8.2	2.50[c]		12 / 0.52		0 / 0.00	170 / 2.79		6.4 / 0.18			1.0			158[e]	17	125	0	15		
7/8 1155	326	71	8.7	102	278	/ 7.8	2.54[c]		11 / 0.48		0 / 0.00	162 / 2.66		8.4 / 0.24			0.9			154[e]	16	127	0	15		
8/5 1130	298	77	7.7	96	284	8.1 / 8.2	2.48[c]		11 / 0.48		0 / 0.00	170 / 2.79		6.2 / 0.17			0.8			158[e]	16	124	0	15		
9/11 1150	240	75	7.9	97	294	/ 7.7	28 / 1.40	15 / 1.22	11 / 0.48	2.4 / 0.06	0 / 0.00	168 / 2.75	7.8 / 0.16	6.6 / 0.19	7.9 / 0.13	0.2 / 0.01	0.9	22	AS 0.00 ABS 0.0 PO_4 0.25	185[f] / 187[g]	15	131	0	8		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CACHE CREEK, NORTH FORK NEAR LOWER LAKE (STA. 79)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform MPN/ml	Analyzed by i
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents			Total ppm	N.C. ppm		
			ppm	%Sat		a / b	equivalents per million																		
1962																									
10/1 1050	1.6	68	10.7	121	542	8.3 / 8.2	3.77 c		44 / 1.91		0 / 0.00	226 / 3.70		56 / 1.58			3.9			307 e	34	188	3	10		
11/1 1155	26	62	11.3	119	631	8.5 / 8.4	4.58 c		49 / 2.13		12 / 0.40	245 / 4.02		70 / 1.97			5.2			358 e	32	229	8	1		
12/4 1240	185	56	10.7	105	331	7.9 / 8.2	2.46 c		23 / 1.00		0 / 0.00	163 / 2.67		25 / 0.71			2.3			188 e	29	123	0	2		
1963																									
1/3 1025	72	46	11.8	102	426	8.0 / 8.3	3.34 c		28 / 1.22		8 / 0.27	203 / 3.33		28 / 0.79			2.4			242 e	27	167	0	2		
2/6 1145	462	56	10.2	100	250	7.9 / 8.2	2.08 c		13 / 0.57		0 / 0.00	144 / 2.36		9.2 / 0.26			0.7			142 e	22	104	0	25		
3/4 1115	108	49	11.6	104	372	8.1 / 8.5	3.24 c		18 / 0.78		10 / 0.33	192 / 3.15		17 / 0.48			1.1			211 e	19	162	0	1		
4/1 1100	878	48	11.2	99	188	7.7 / 8.1	1.66 c		6.8 / 0.30		0 / 0.00	107 / 1.75		4.2 / 0.12			0.4			107 e	15	83	0	120		
5/8 1015	165	56	10.3	101	350	8.3 / 8.3	27 / 1.35	22 / 1.85	14 / 0.61	1.1 / 0.03	5 / 0.17	197 / 3.23	11 / 0.23	12 / 0.34	0.4 / 0.01	0.2 / 0.01	0.9	19	PO_4 0.05	210 f / 201 g	16	160	0	2		
6/3 1000	71	54	9.7	93	416	8.1 / 8.5	3.68 c		20 / 0.87		11 / 0.37	213 / 3.49		20 / 0.56			1.6			236 e	19	184	0	1		
7/8 1045	20	72	10.6	125	478	/ 8.5	3.94 c		28 / 1.22		10 / 0.33	227 / 3.72		34 / 0.96			2.3			271 e	24	197	0	1		
8/5 1030	8.8	76	9.2	113	481	8.3 / 8.6	3.94 c		30 / 1.30		13 / 0.43	203 / 3.33		46 / 1.30			2.8			273 e	25	197	9	2		
9/11 1020	4.6	71	9.5	111	522	/ 8.4	35 / 1.75	30 / 2.45	31 / 1.35	1.7 / 0.04	10 / 0.33	210 / 3.44	16 / 0.33	51 / 1.44	0.9 / 0.01	0.2 / 0.01	3.2	20	AS 0.01 ABS 0.0 PO_4 0.05	302 f / 301 g	24	210	21	5		

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (NO. 5)
CACHE SLOUGH BELOW LENDRY SLOUGH (STA. 110)
parts per million

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CACHE SLOUGH BELOW LINDSEY SLOUGH (STA. 110a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH [b]	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total [f] dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N C ppm	Turbidity in ppm	Coliform [h] MPN/ml	Analyzed by [i]
1962																										
10/15 1145		64			216				17					18						208	34					USBR
1963																										
1/14 1147		46			224				18					16						160	35					
4/8 1120		56			241				14					11						172	25					
7/12 1045		73			190				12					11						156	27					

o Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CALAVERAS RIVER AT JENNY LIND (STA. 16a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/2 1050	Not Sampled - Dry																								Median 9.5	USGS
11/13 1135	37	60	8.5	86	354	7.5 / 8.0	3.11[c]		12 / 0.52		0 / 0.00	161 / 2.64		16 / 0.45			0.0			218[e]	14	155	23	1	Maximum 2400.	
12/6 1045	3.2	52	7.7	70	343	7.3 / 8.1	3.03[c]		12 / 0.52		0 / 0.00	152 / 2.49		16 / 0.45			0.1			209[e]	15	152	27	1	Minimum 0.62	
1963																										
1/8 1210	0.2	50	10.8	96	309	7.4 / 8.0	2.72[c]		10 / 0.44		0 / 0.00	140 / 2.29		12 / 0.34			0.0			190[e]	14	136	21	1		
2/4 1100	2260	55	10.8	103	119	7.5 / 7.2	1.02[c]		3.7 / 0.16		0 / 0.00	53 / 0.87		4.0 / 0.11			0.1			73[e]	14	51	8	25		
3/11 1045	11	57	9.3	91	274	7.5 / 7.9	2.38[c]		9.8 / 0.43		0 / 0.00	136 / 2.23		9.3 / 0.26			0.0			169[e]	15	119	7	1		
4/8 1100	249	57	10.2	99	164	7.3 / 7.6	1.53[c]		5.1 / 0.22		0 / 0.00	84 / 1.38		2.9 / 0.08			0.1			101[e]	13	76	7	40		
5/6 1000	87	64	9.4	99	181	8.2 / 7.9	21 / 1.05	7.2 / 0.59	5.4 / 0.23	1.5 / 0.04	0 / 0.00	94 / 1.54	12 / 0.25	4.5 / 0.13	0.2 / 0.00	0.1 / 0.01	0.1	15	PO_4 0.05	113 / 121 [f/g]	12	82	5	3		
6/4 0835	121	62	9.6	99	173	7.4 / 8.1	1.52[d]		5.2 / 0.23		0 / 0.00	91 / 1.49		4.4 / 0.12			0.0			105[e]	13	76	1	3		
7/10 0900	208	63	9.6	100	178	7.5 / 7.9	1.60[d]		5.0 / 0.22		0 / 0.00	94 / 1.54		4.4 / 0.12			0.0			109[e]	12	80	3	10		
8/5 0845	208	69	8.9	99	194	7.7 / 8.2	1.78[d]		5.4 / 0.23		0 / 0.00	105 / 1.72		4.0 / 0.11			0.0			119[e]	11	89	3	8		
9/11 0930	172	71	8.3	95	214	7.7 / 8.0	27 / 1.35	8.3 / 0.68	6.1 / 0.27	2.5 / 0.06	0 / 0.00	120 / 1.97	14 / 0.29	6.0 / 0.17	1.5 / 0.02	0.0 / 0.00	0.0	18	AS 0.00 ABS 0.0 PO_4 0.10	142 / 140 [f/g]	11	101	3	4		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (NO. 5)
CALAVERAS RIVER NEAR STOCKTON (STA. 16b)

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO.5)

CALAVERAS RIVER NEAR STOCKTON (STA. 16b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ NC ppm	Turbidity in ppm	Coliform MPN/ml h	Analyzed by i
1962																										
10/2 1135	Not Sampled		- - -	Dry																					Median 230.	USGS
11/13 1305	Not Sampled		- - -	Dry																					Maximum 7000.	
12/5 1300	Not Sampled		- - -	Dry																					Minimum 2.3	
1963																										
1/8 1320	Ponded	45	14.6	120	304	8.0 / 7.9	2.60 c		11 / 0.48		0 / 0.00	136 / 2.23		12 / 0.34			0.0			195 e	16	130	18	8		
2/4 1225	2590	56	10.5	100	111	7.3 / 7.4	0.94 c		3.8 / 0.17		0 / 0.00	51 / 0.84		2.5 / 0.07			0.1			71 e	15	47	5	40		
3/1 1210	Not Sampled		- - -	Dry																						
4/8 1215	878	59	9.2	91	116	7.3 / 7.3	0.94 c		3.6 / 0.16		0 / 0.00	53 / 0.87		1.5 / 0.04			0.1			74 e	15	47	4	85		
5/6 1115	42	71	9.0	102	186	7.9 / 8.0	20 / 1.00	7.8 / 0.64	6.0 / 0.26	1.4 / 0.04	0 / 0.00	94 / 1.54	11 / 0.23	3.9 / 0.11	1.6 / 0.03	0.2 / 0.01	0.0	15	AS 0.00 ABS 0.0 PO_4 0.05	113 / 115 f g	13	82	5	20		
6/4 1005	2.0	72	8.0	92	118	7.1 / 7.4	1.00 c		4.2 / 0.18		0 / 0.00	60 / 0.98		4.2 / 0.12			0.0			76 e	15	50	1	5		
7/10 1000	Ponded		- - -	Not Sampled																						
8/5 1015	59	75	8.6	101	186	8.1 / 7.8	1.66 c		5.5 / 0.24		0 / 0.00	100 / 1.64		4.0 / 0.11			0.0			119 e	13	83	1	15		
9/11 1045	23	75	9.5	112	220	8.1 / 7.8	26 / 1.30	8.3 / 0.68	6.1 / 0.27	2.8 / 0.07	0 / 0.00	118 / 1.93	12 / 0.25	5.2 / 0.15	1.9 / 0.03	0.2 / 0.01	0.0	14	AS 0.00 ABS 0.0 PO_4 0.10	134 / 137 f g	12	99	2	15		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CLEAR CREEK NEAR IGO (STA. 12a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfates (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
1962																										USGS
10/2 0900	35	65	8.6	91	192	7.4 / 7.6	— / 1.19 c		11 / 0.70		0 / 0.00	62 / 1.02		4.1 / 0.57			0.0				37	69	8	3		
11/2 1030	90	57	10.5	101	149	7.4 / 7.5	— / 1.12 c		9.4 / 0.40		0 / 0.00	54 / 0.89		10 / 0.28			0.1				26	56	12	24		
12/7 0930	270	48	11.9	103	99	7.4 / 7.7	— / 0.71 c		6.6 / 0.29		0 / 0.00	41 / 0.67		4.8 / 0.14			0.0				27	45	1	15		
1963																										
1/4 1700	151	44	12.2	99	111	7.4 / 7.6	— / 0.81 c		6.5 / 0.28		0 / 0.00	42 / 0.69		6.7 / 0.19			0.0				26	41	7	15		
2/11 0915	966	49	11.7	102	80	7.1 / 7.6	— / 0.60 c		3.5 / 0.15		0 / 0.00	35 / 0.57		2.8 / 0.08			0.0				20	30	1	15		
3/4 1500	280	46	12.3	103	89	7.3 / 7.4	— / 0.65 c		4.0 / 0.17		0 / 0.00	37 / 0.61		4.9 / 0.14			0.0				18	33	1	5		
4/4 1515	1,710	52	11.5	106	76	7.3 / 7.7	— / 0.58 c		4.2 / 0.18		0 / 0.00	34 / 0.56		2.2 / 0.07			0.1				24	39	1	6		
5/3 1510	120	57	10.4	102	78	7.3 / 7.4	7.4 / 0.37	2.3 / 0.19	4.4 / 0.19	0.7 / 0.02	0 / 0.00	37 / 0.61	4.0 / 0.08	2.4 / 0.06	1.0 / 0.02	0.1 / 0.01	0.3	21	PO_4 0.05	41 f / 68 g	25	28	0	6		
6/5 1230	122	59	10.4	104	81	7.4 / 7.7	— / 0.61 c		4.2 / 0.18		0 / 0.00	37 / 0.61		2.6 / 0.10			0.0				23	31	1	5		
7/12 0820	43	60	9.8	100	89	6.6 / 7.6	— / 0.73 c		3.7 / 0.14		0 / 0.00	43 / 0.70		2.4 / 0.10			0.0				18	36	1	1		
8/2 1400	58	64	9.9	105	96	7.4 / 7.6	— / 0.84 c		4.5 / 0.13		0 / 0.00	52 / 0.85		2.2 / 0.06			0.1				13	42	0	3		
9/12 1430	1,380	64	9.9	105	93	7.4 / 7.5	7.2 / 0.36	2.8 / 0.23	2.6 / 0.11	1.0 / 0.03	0 / 0.00	50 / 0.82	3.0 / 0.06	2.6 / 0.07	0.4 / 0.00	0.1 / 0.01	0.0	14	PO_4 0.00 As 0.01 ABS 0.00	62 f / 58 g	11	42	1	3		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CLEAR LAKE AT LAKEPORT (STA. 41)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/1 1310		77	14.7	184	308	7.7 /	2.86[c]		14 / 0.61		0 / 0.00	172 / 2.82		8.3 / 0.23			0.1			177[e]	18	143	2	20	Median 5.	USGS
11/1 1400		68	4.6	52	291	7.3 / 8.0	2.58[c]		12 / 0.52		0 / 0.00	172 / 2.82		6.2 / 0.17			1.0			167[e]	17	129	0	25	Maximum 7000.	
12/4 0955		54	7.8	76	289	7.5 / 7.8	2.55[c]		12 / 0.52		0 / 0.00	169 / 2.77		8.4 / 0.24			0.8			166[e]	17	127	0	15	Minimum 0.13	
1963																										
1/3 1255		47	8.2	72	287	7.3 / 7.7	2.52[c]		12 / 0.52		0 / 0.00	168 / 2.75		6.5 / 0.18			0.9			165[e]	17	126	0	20		
2/6 1415		55	9.6	94	262	7.5 / 7.8	2.31[c]		11 / 0.48		0 / 0.00	148 / 2.43		7.6 / 0.21			0.7			151[e]	17	115	0	25		
3/4 1330		56	9.6	95	261	7.6 / 8.3	2.30[c]		10 / 0.44		4 / 0.13	148 / 2.43		5.5 / 0.16			0.8			150[e]	16	115	0	35		
4/1 1315		54	10.1	98	258	7.7 / 8.0	2.24[c]		9.6 / 0.42		0 / 0.00	151 / 2.47		5.8 / 0.16			0.7			148[e]	16	112	0	10		
5/8 1330		56	10.9	104	239	8.1 / 8.2	21 / 1.05	14 / 1.15	9.0 / 0.39	1.6 / 0.04	0 / 0.00	145 / 2.38	8.0 / 0.17	4.4 / 0.12	1.8 / 0.03	0.2 / 0.01	0.6	16	AS 0.01 ABS 0.0 / PO_4 0.05	148[f] / 151[g]	15	110	0	30		
6/3 1300		69	7.4	85	253	7.9 / 8.5	2.24[c]		10 / 0.44		6 / 0.20	142 / 2.33		5.6 / 0.16			0.8			145[e]	16	112	0	15		
7/8 1310		74	7.8	95	255	8.1 /	2.35[c]		10 / 0.44		0 / 0.00	152 / 2.49		7.6 / 0.21			0.7			147[e]	16	118	0	35		
8/5 1315		82	8.7	114	271	8.3 / 8.4	2.50[c]		11 / 0.48		6 / 0.20	148 / 2.43		5.5 / 0.16			0.8			156[e]	16	125	0	4		
9/11 1335		78	12.4	157	289	7.5 /	27 / 1.35	14 / 1.19	10 / 0.44	2.3 / 0.06	0 / 0.00	168 / 2.75	8.2 / 0.17	6.4 / 0.18	2.7 / 0.04	0.1 / 0.01	0.8	23	AS 0.02 ABS 0.0 / PO_4 0.75	177[f] / 185[g]	14	127	0	20		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

COLUSA TROUGH NEAR COLUSA (STA. 87)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										USGS
10/17 1025	NO RECORD	56	7.7	73	692	7.4 / 7.6	84 / 3.65[c]		84 / 3.65		0 / 0.00	200 / 3.28		48 / 1.35			0.2				51	172	8	85	Median 210.	
11/27 1100	154	54	9.8	91	1,130	8.1 / 8.2	150 / 7.48[c]		150 / 6.52		0 / 0.00	329 / 5.39	186 / 3.87	99 / 2.79			0.3				53	284	14	40	Maximum 7,000.	
12/18 1115	1,174	55	8.3	78	696	7.5 / 8.1	58 / 2.91[c]		90 / 3.92		0 / 0.00	164 / 2.69	135 / 2.81	49 / 1.38			0.3				57	146	12	300	Minimum 2.2	
1963																										
1/15 1430	160	40	13.1	101	1,850	8.4 / 8.2	144[c]		260 / 11.31		0 / 0.00	346 / 5.67	334 / 6.95	234 / 6.60			0.3				61	362	78	25		
2/19 1015	791	58	8.7	85	906	7.8 / 7.8	82[c]		117 / 5.09		0 / 0.00	252 / 4.13	157 / 3.27	72 / 2.03			0.2				55	206	0	80		
3/19 1030	108	55	10.8	101	1,460	8.3 / 8.0	132[c]		192 / 8.35		13 / 0.43	351 / 5.75	294 / 6.12	119 / 3.36			0.1		Tot. alk. 378		53	366	56	5		
4/16 1130	1,347	57	8.5	82	547	7.9 / 7.9	56[c]		62 / 2.70		0 / 0.00	168 / 2.75	89 / 1.85	44 / 0.96			0.2				49	141	3	230		
5/14 1200	729	69	8.4	93	440	7.6 / 7.4	23 / 1.15	14 / 1.17	47 / 2.04	2.0 / 0.05	0 / 0.00	137 / 2.25	71 / 1.48	25 / 0.71	3.5 / 0.10	0.7 / 0.04	0.2	17	PO_4 0.25	271[f] 273[g]	46	116	4	50		
6/3 1205	1,185	68	8.1	88	495	7.8 / 8.2	52[c]		59 / 2.57		0 / 0.00	176 / 2.88	71 / 1.48	26 / 0.73			0.3				52	120	4	80		
7/8 0920	652	73	7.4	85	488	7.7 / 8.1	58[c]		56 / 2.44		0 / 0.00	199 / 3.26	57 / 1.19	26 / 0.73			0.2				48	131	0	35		
8/6 1200	634	78	7.0	84	511	7.3 / 8.2	74[c]		56 / 2.44		0 / 0.00	221 / 3.62		25 / 0.71			0.2				43	162	0	65		
9/10 1220	1,400	72	7.7	88	444	7.6 / 7.7	26 / 1.30	17 / 1.38	46 / 2.00	1.6 / 0.04	0 / 0.00	201 / 3.29	37 / 0.77	20 / 0.56	1.5 / 0.02	0.3 / 0.02	0.2	17	PO_4 0.20 As 0.00 ABS 0.00	266[f] 254[g]	42	134	0	30		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimatric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

CONTRA COSTA CANAL AT FIRST PUMP LIFT (STA. 109a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH [b]	Mineral constituents in parts per million / equivalents per million											Other constituents	Total dissolved solids in ppm [g]	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform [h] MPN/ml	Analyzed by [i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)				Total ppm	N C ppm		
1962																								
10/17 1120		62			406	7.5	22	13	44	2.0	0.0	96	44	58	1.2					252	47					USBR
11/14 1115		59			565	7.5	24	19	55	2.3	0.0	108	58	82	1.9					324	46					
12/17 1355		54			674	7.6	32	18	75	2.3	0.0	115	72	114	1.2					408	51					
1963																								
1/16 1010		39			816	7.5	37	22	87	2.3	0.0	106	110	125	3.7					476	50					
2/11 1400		56			1020	7.7	50	30	106	3.9	0.0	110	177	151	9.3		0.71			664	48					
3/11 1255		59			764	8.1	32	22	85	3.8	0.0	101	113	116	1.9					492	46					
4/8 1010		56			782	7.6	34	24	83	3.5	0.0	115	108	116	1.9					496	49					
5/13 1000		64			428	7.8	22	12	46	2.3	0.0	81	58	61	1.2					328	48					
6/10 0940		72			203	7.7	11	7.0	17	1.6	0.0	44	21	26	0.0					140	39					
7/15 1425		78			281	7.3	15	9.6	22	2.0	0.0	72	43	29	0.0					192	38					
8/12 1020		75			362	8.2	17	13	35	3.1	0.0	96	37	45	0.0		0.15			260	43					
9/23 0900		69			364	7.6	16	14	36	2.3	0.0	96	37	45	0.6					228	44					

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

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TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

COSUMNES RIVER AT McCONNELL (STA. 94n)

Date and time sampled PST	Discharge in cfs	Temp. in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/2 1330	Not Sampled - Dry																								Median 23.	USGS
11/8 1400	16	60	10.5	105	134	7.4 / 7.8	1.08[c]		5.3 / 0.23		0 / 0.00	69 / 1.13		2.8 / 0.08			0.0			100[e]	18	54	0	5	Maximum 620.	
12/6 1340	74	50	11.2	99	116	7.3 / 7.8	0.95[c]		4.9 / 0.21		0 / 0.00	58 / 0.95		4.6 / 0.13			0.1			87[e]	18	47	0	8	Minimum 2.3	
1963																										
1/14 1545	29	40	13.7	106	128	7.4 / 7.9	1.03[c]		4.6 / 0.20		0 / 0.00	67 / 1.10		4.0 / 0.11			0.0			96[e]	16	54	0	10		
2/7 0840	1100	53	10.6	97	80	7.3 / 7.4	0.62[c]		3.8 / 0.17		0 / 0.00	39 / 0.64		1.8 / 0.05			0.0			60[e]	22	31	0	40		
3/12 1545	212	59	10.9	108	111	7.4 / 7.8	0.94[c]		4.0 / 0.17		0 / 0.00	58 / 0.95		3.5 / 0.10			0.0			83[e]	15	47	0	4		
4/11 1400	3060	53	10.9	100	85	7.1 / 7.6	0.69[c]		3.4 / 0.15		0 / 0.00	42 / 0.69		2.6 / 0.07			0.0			64[e]	18	34	0	30		
5/15 1500	1480	63	10.0	104	59	7.3 / 7.6	6.0 / 0.30	2.1 / 0.17	2.9 / 0.13	1.0 / 0.03	0 / 0.00	32 / 0.52	2.0 / 0.04	1.9 / 0.05	0.1 / 0.00	0.0 / 0.00	0.0	19	As 0.00 ABS 0.0 PO_4 0.00	51 / 51	f / g	21	23	0	9		
6/3 1325	590	69	9.0	100	60	7.1 / 7.5	0.35[c]		3.0 / 0.13		0 / 0.00	32 / 0.52		1.0 / 0.03			0.1			45[e]	27	18	0	15		
7/8 1330	70	81	8.6	108	87	7.5 / 7.9	0.70[c]		3.9 / 0.17		0 / 0.00	46 / 0.75		2.2 / 0.06			0.0			65[e]	20	35	0	3		
9/12 1420	Not Sampled - Dry																									

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0/0.00 except as shown.

e Derived from conductivity vs. TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

COSUMNES RIVER AT MICHIGAN BAR (STA. 94)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/2 1245	4.3	74	10.0	117	100	7.6 / 7.9	0.82[c]		5.1 / 0.22		0 / 0.00	56 / 0.92		4.1 / 0.12			0.0			74[e]	21	41	0	2	Median 13.	USGS
11/7 1540	42	62	10.3	106	129	7.5 / 7.8	1.08[c]		5.0 / 0.22		0 / 0.00	64 / 1.05		3.5 / 0.10			0.0			96[e]	17	54	2	5	Maximum 620.	
12/6 1430	90	50	11.2	100	111	7.3 / 7.7	0.92[c]		4.7 / 0.20		0 / 0.00	56 / 0.92		4.6 / 0.13			0.0			82[e]	18	46	0	1	Minimum 0.62	
1963																										
1/14 1445	54	38	14.0	106	135	7.5 / 7.9	1.17[c]		5.1 / 0.22		0 / 0.00	69 / 1.13		5.0 / 0.14			0.0			100[e]	16	59	2	1		
2/7 1600	1070	54	11.1	104	72	7.3 / 7.6	0.55[c]		3.2 / 0.14		0 / 0.00	36 / 0.59		1.4 / 0.04			0.0			53[e]	20	27	0	9		
3/18 1415	334	49	12.1	106	119	7.3 / 7.7	0.90[c]		4.2 / 0.18		0 / 0.00	61 / 1.00		3.9 / 0.11			0.0			88[e]	16	49	0	1		
4/11 1445	2280	52	11.5	105	75	7.3 / 7.7	0.62[c]		3.2 / 0.14		0 / 0.00	39 / 0.64		2.6 / 0.07			0.0			56[e]	18	31	0	15		
5/15 1345	3020	61	10.6	108	55	7.3 / 7.7	5.5 / 0.27	1.8 / 0.15	3.2 / 0.14	0.7 / 0.02	0 / 0.00	30 / 0.49	2.6 / 0.05	2.4 / 0.07	0.1 / 0.00	0.0 / 0.00	0.0	19	PO_4 0.00	50 / 49[f,g]	24	21	0	7		
6/3 1215	636	66	10.0	108	57	7.1 / 7.6	0.42[c]		3.0 / 0.13		0 / 0.00	30 / 0.49		1.0 / 0.03			0.0			42[e]	24	21	0	2		
7/8 1245	117	74	9.0	106	73	7.5 / 7.7	0.56[c]		3.3 / 0.14		0 / 0.00	37 / 0.61		2.2 / 0.06			0.0			54[e]	20	28	0	1		
9/12 1330	16	76	8.7	104	91	/ 7.8	9.2 / 0.46	3.6 / 0.30	4.3 / 0.19	1.2 / 0.03	0 / 0.00	45 / 0.74	3.2 / 0.07	3.0 / 0.05	1.0 / 0.02	0.0 / 0.00	0.0	18	AS 0.02 ABS 0.0 PO_4 0.05	66[f]	19	38	1	2		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH), City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

COTTONWOOD CREEK NEAR COTTONWOOD (STA. 12b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
							equivalents per million																			
1962																										USGS
10/2 1155	90	68	11.0	120	170	7.4 / 8.0	1.42[c]		8.6 / 0.37		0 / 0.00	96 / 1.57		6.6 / 0.19			0.0				21	71	0	3	Median 36.	
11/1 1435	125	57	10.8	104	255	8.0 / 8.0	2.16[c]		9.9 / 0.43		0 / 0.00	134 / 2.20		12 / 0.34			0.1				17	108	0	1	Maximum 2,400.	
12/7 1130	500	49	11.4	99	245	7.7 / 8.3	2.23[c]		9.6 / 0.42		1 / 0.03	125 / 2.05		10 / 0.28			0.1		Tot. alk. 128		16	111	6	10	Minimum 2.3	
1963																										
1/4 1005	290	44	11.7	95	267	7.6 / 8.0	2.32[c]		11 / 0.48		0 / 0.00	130 / 2.13		12 / 0.34			0.0				17	116	9	2		
2/4 1540	2,950	52	10.8	98	186	7.4 / 7.8	1.02[c]		8.7 / 0.38		0 / 0.00	96 / 1.57		4.5 / 0.13			0.0				19	81	2	180		
3/1 1000	570	51	11.1	99	259	7.7 / 8.3	2.34[c]		8.0 / 0.35		2 / 0.07	134 / 2.20		7.8 / 0.22			0.1		Tot. alk. 138		13	117	4	6		
4/5 1030	1,250	55	10.2	97	225	7.7 / 8.1	2.14[c]		7.4 / 0.32		0 / 0.00	100 / 1.64		4.4 / 0.12			0.0				13	107	25	15		
5/3 0900	1,300	58	9.7	95	209	8.2 / 8.4	22 / 1.10	9.7 / 0.80	6.8 / 0.30	0.8 / 0.02	4 / 0.13	110 / 1.80	11 / 0.23	3.8 / 0.11	1.1 / 0.02	0.2 / 0.01	0.1	18	Tot. alk. 118 PO_4 0.05	132[f] 137[g]	14	95	0	30		
6/5 1305	465	72	8.9	102	213	7.5 / 7.9	1.99[c]		7.1 / 0.31		0 / 0.00	120 / 1.97		7.1 / 0.20			0.0				13	99	1	6		
7/12 1010	167	75	8.9	105	224	7.8 / 8.2	2.01[c]		8.3 / 0.36		0 / 0.00	128 / 2.10		7.8 / 0.22			0.0				15	100	0	2		
8/5 1230	90	78	9.0	110	203	7.4 / 7.9	1.68[c]		8.0 / 0.35		0 / 0.00	117 / 1.92		4.8 / 0.14			0.1				17	84	0	3		
9/12 1300	75	72	9.9	113	190	7.4 / 8.2	17 / 0.85	9.6 / 0.79	7.8 / 0.34	0.9 / 0.02	0 / 0.00	106 / 1.74	7.0 / 0.15	5.6 / 0.16	0.9 / 0.01	0.2 / 0.01	0.0	27	PO_4 0.05 As 0.02 ABS 0.00	128[f] 126[g]	17	82	0	2		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

COTTONWOOD CREEK BELOW NORTH FORK COTTONWOOD CREEK (STA. 11a)

Date and time sampled P.S.T.	Discharge in cfs Est. by sampler	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Mineral constituents in equivalents per million: Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
1962																										USGS
10/2 1015	30	69	9.3	102	266	7.7 8.0	53 2.22		14 0.61		0 0.00	132 2.16		20 0.56			0.0				32	111	3	1		
11/2 1100	30	60	10.0	100	260	7.9 8.1	47 2.34		7.7 0.40		0 0.00	142 2.33		9.5 0.27			0.2				15	117	1	1		
12/7 1015	100	48	11.8	102	249	7.9 8.3	47 2.33		8.0 0.35		2 0.07	136 2.23		7.1 0.20			0.0		Tot. alk. 140		13	117	2	3		
1963																										
1/4 1615	50	46	12.1	101	250	7.7 8.3	47 2.29		7.9 0.34		3 0.10	127 2.08		8.2 0.23			0.0		Tot. alk. 133		13	115	6	1		
2/11 1000	400	49	11.3	98	179	7.5 7.9	36 1.8		7.8 0.34		0 0.00	100 1.64		2.0 0.06			0.0				17	83	1	200		
3/4 1415	150	50	11.9	105	222	7.5 8.4	42 2.11		5.2 0.24		1 0.10	122 2.00		5.8 0.16			0.0		Tot. alk. 128		10	105	0	9		
4/4 1555	300	55	10.6	101	201	7.7 8.1	36 1.80		5.7 0.25		0 0.00	114 1.86		3.1 0.09			0.0				12	93	0	14		
5/3 1435	200	57	10.2	100	190	7.9 8.3	20 1.00	10 0.84	5.4 0.23	0.8 0.02	4 0.10	108 1.77	9.0 0.19	2.2 0.06	1.1 0.02	0.1 0.01	0.0	20	Tot. alk. 114 PO_4 0.05	125[f] 130[g]	11	92	0	15		
6/5 1135	100	62	9.6	100	194	8.0 8.5	37 1.87		2.7 0.12		4 0.13	109 1.74		4.3 0.14			0.0		Tot. alk. 114		12	94	1	2		
7/12 0930	100	75	8.6	103	241	7.4 8.4	47 2.44		7.0 0.30		4 0.13	134 2.20		6.0 0.19			0.0		Tot. alk. 142		11	122	6	5		
8/2 1320	35	81	8.4	106	227	7.2 8.4	41 2.04		7.6 0.33		2 0.30	114 1.85		6.8 0.19			0.1		Tot. alk. 131		14	102	0	4		
9/12 1400	25	74	9.1	107	237	8.0 8.0	34 1.15	12 1.01	7.9 0.34	1.4 0.04	0 0.00	132 2.16	2.0 0.10	12 0.34	0.4 0.01	0.2 0.01	0.0	20	PO_4 0.05 As 0.00 ABS 0.00	147[f] 140[g]	13	108	8	3		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), mangonese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

COTTONWOOD CREEK, SOUTH FORK ABOVE COTTONWOOD CREEK (STA. 11b)

Date and time sampled P.S.T.	Discharge in cfs Est. by sampler	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonates (CO_3)	Bicarbonates (HCO_3)	Sulfates (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
1962																										USGS
10/2 1120	DRY																									
11/1 1530	50	70	9.8	109	327	7.9 / 8.7	2.54[c]		17 / 0.74		0 / 0.00	137 / 2.25		28 / 0.79			0.3				23	127	15	2		
12/7 1100	75	49	11.5	100	248	7.7 / 8.3	2.01[c]		12 / 0.52		2 / 0.07	114 / 1.87		16 / 0.45			0.1		Tot. alk. 119		21	100	2	7		
1963																										
1/4 1540	50	48	12.0	103	329	7.6 / 8.4	2.69[c]		15 / 0.65		3 / 0.10	135 / 2.21		23 / 0.65			0.0		Tot. alk. 142		19	134	18	1		
2/11 1040	300	49	11.3	98	202	7.6 / 8.0	1.76[c]		10 / 0.44		0 / 0.00	110 / 1.80		5.0 / 0.14			0.0				20	88	0	200		
3/1 1455	125	58	10.6	103	342	8.0 / 8.3	3.01[c]		14 / 0.61		2 / 0.07	167 / 2.74		14 / 0.39			0.0		Tot. alk. 172		17	150	9	5		
4/5 0945	300	55	10.5	99	291	7.9 / 8.3	2.53[c]		12 / 0.52		3 / 0.10	146 / 2.39		8.8 / 0.25			0.0		Tot. alk. 151		17	126	2	15		
5/3 0830	200	58	9.9	97	251	7.9 / 8.4	89 / 1.45	10 / 0.83	9.3 / 0.40	0.8 / 0.02	4 / 0.13	130 / 2.13	17 / 0.35	5.8 / 0.16	1.4 / 0.02	0.2 / 0.01	0.0	13	Tot. alk. 138 PO_4 0.05	154[f] 161[g]	15	114	1	8		
6/3 1040	35	64	9.2	97	254	7.9 / 8.4	2.26[c]		9.6 / 0.42		3 / 0.10	130 / 2.13		9.0 / 0.25			0.0		Tot. alk. 136		16	113	1	1		
7/8 1430	25	85	8.4	110	296	7.6 / 8.2	2.52[c]		13 / 0.57		0 / 0.00	147 / 2.41		16 / 0.45			0.0				18	126	5	1		
8/2 1235	3	80	6.2	77	299	7.2 / 8.5	2.46[c]		13 / 0.57		8 / 0.27	132 / 2.16		15 / 0.42			0.1		Tot. alk. 148		19	123	2	3		
9/12	DRY																									

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

Central District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH), City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR), as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

COW CREEK NEAR MILLVILLE (STA. 88a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										USGS
1/[illegible] 12[illegible]	32	71	[illegible].5	[illegible].7	187	8.4 7.7	1.40		11 0.48		0 0.00	102 1.67		7.5 0.21			0.7				25	73	0	5		
1/[illegible] 12[illegible]	[illegible]6	[illegible]4	[illegible].[illegible]	108	[illegible]	[illegible].1 8.[illegible]	1.24		8.[illegible] 0.36		0 0.00	79 1.29		6.3 0.18			0.0				22	62	[illegible]	5		
12[illegible]7 12[illegible]	[illegible]5	[illegible]	11.4	101	121	[illegible].[illegible] 7.[illegible]	0.90		6.4 0.28		0 0.00	57 0.93		[illegible].0 0.14			0.0				24	45	0	5		
1/[illegible]2																										
1/[illegible]4 [illegible]3	3[illegible]7	43	12.1	[illegible]7	[illegible]0	[illegible].4 7.[illegible]	0.97		6.4 0.28		0 0.00	62 1.02		6.8 0.19			0.0				22	48	0	1		
2/[illegible]1 1[illegible]2	[illegible]3	2	11.[illegible]	1[illegible]	[illegible]1	[illegible].[illegible] 7.7	0.84		6.7 0.29		0 0.00	52 0.90		[illegible].5 0.10			0.0				23	42	0	6		
[illegible] 1[illegible]0	[illegible]3	[illegible]6	1[illegible].[illegible]	10[illegible]	1[illegible]6	[illegible].[illegible] 8.1	1.01		[illegible].4 0.23		0 0.00	48 1.08		6.2 0.17			0.[illegible]				19	51	[illegible]	1		
[illegible]4 10[illegible]9	94[illegible]	[illegible]	1[illegible].[illegible]	10[illegible]	11[illegible]	[illegible].[illegible] 9.[illegible]	[illegible].6		5.[illegible] [illegible].4		0 0.00	[illegible]8 [illegible].95		3.4 0.1			0.1				21	45	0	9		
[illegible]3 7[illegible]	900	58	[illegible].8	96	99	[illegible].[illegible] 7.[illegible]	10 0.50	3.6 0.30	4.4 0.19	[illegible].7 0.02	0 0.00	58 0.95	3.[illegible] [illegible].0[illegible]	[illegible].8 0.06	1.[illegible] 0.02	0.1 0.01	0.0	24	PO_4 [illegible].[illegible]	76[f] 76[g]	19	40	0	3		
[illegible]0[illegible] [illegible]0[illegible]	2[illegible]4	1	[illegible].2	10[illegible]	11[illegible]	[illegible].[illegible] 7.[illegible]	0.78		5.2 0.23		0 0.00	[illegible]4 1.05		3.[illegible] 0.08			0.0				20	46	0	[illegible]		
[illegible]1 [illegible]0	7[illegible]	84	[illegible].[illegible]	11[illegible]	1[illegible]3	[illegible].[illegible] 7.[illegible]	1.22		7.[illegible] 0.32		0 0.00	[illegible]5 1.39		[illegible].[illegible] 0.14			0.0				21	61	0	2		
[illegible]0 [illegible]	35	83	9.1	117	168	7.6 8.[illegible]	1.20		8.4 0.37		0 0.00	[illegible]3 1.52		5.5 0.16			0.2				23	63	[illegible]	7		
[illegible]/1 1[illegible]5	37	72	7.6	87	179	7.[illegible] 8.[illegible]	17 0.85	[illegible].4 0.61	8.[illegible] 0.38	1.[illegible] 0.04	0 0.00	102 1.67	1.[illegible] [illegible].02	[illegible].[illegible] 0.17	[illegible].[illegible] 0.01	0.1 0.01	0.0	[illegible]2	PO_4 [illegible].02 As [illegible].01 ABS 0.00	127[f] 127[g]	[illegible]2	73	[illegible]	[illegible]		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

DELTA CROSS CHANNEL NEAR WALNUT GROVE (STA. 98)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
							equivalents per million																			
1962																										
10/3 1225	Tidal	67	6.8	74	170	7.3 / 7.4	1.24[c]		11 / 0.48		0 / 0.00	82 / 1.34		8.3 / 0.23			0.0			107[e]	28	62	0	4	Median 230.	USGS
11/8 1255		59	8.7	86	158	7.3 / 7.9	1.12[c]		11 / 0.48		0 / 0.00	74 / 1.21		7.4 / 0.21			0.0			100[e]	30	56	0	30	Maximum >7000.	
12/5 1245		50	10.5	92	87	7.1 / 7.3	0.69[c]		4.2 / 0.18		0 / 0.00	44 / 0.72		3.6 / 0.10			0.0			55 [e]	21	35	0	35	Minimum 6.2	
1963																										
1/15 1240		42	11.9	94	185	7.3 / 7.6	1.28[c]		13 / 0.57		0 / 0.00	84 / 1.38		8.8 / 0.25			0.0			117[e]	31	64	0	25		
2/4 1345		50	11.5	101	59	7.1 / 7.2	0.46[c]		3.0 / 0.13		0 / 0.00	28 / 0.46		1.4 / 0.04			0.1			37 [e]	22	23	0	130		
3/14 1400		53	9.9	91	189	7.3 / 7.7	1.41[c]		11 / 0.48		0 / 0.00	90 / 1.48		9.1 / 0.26			0.0			119[e]	25	71	0	10		
4/10 1545		52	11.0	99	71	7.1 / 7.8	0.61[c]		2.7 / 0.12		0 / 0.00	36 / 0.59		2.6 / 0.07			0.0			45 [e]	16	30	0	40		
5/14 1400		59	10.3	102	107	7.3 / 7.5	10 / 0.50	4.7 / 0.39	5.5 / 0.24	1.1 / 0.03	0 / 0.06	54 / 0.89	6.0 / 0.12	4.8 / 0.14	0.3 / 0.00	0.1 / 0.01	0.0	18	AS 0.00 ABS 0.0 PO_4 0.10	78 [f] / 74 [g]	21	45	1	10		
6/4 1145		67	8.5	92	161	7.3 / 7.8	1.11[c]		11 / 0.48		0 / 0.00	70 / 1.15		9.5 / 0.27			0.0			102[e]	30	56	0	9		
7/8 1000		69	8.3	92	169	8.3	1.27[c]		11 / 0.48		1 / 0.03	75 / 1.23		9.1 / 0.26			0.1			107[e]	27	64	2	10		
8/8 1200		71	7.5	85	181	7.3 / 7.9	1.24[c]		12 / 0.52		0 / 0.00	82 / 1.34		9.2 / 0.26			0.3			114[e]	30	62	0	4		
9/11 0800		70	7.0	78	214	7.3 / 7.7	13 / 0.65	9.6 / 0.79	16 / 0.70	1.1 / 0.03	0 / 0.00	100 / 1.64	11 / 0.23	11 / 0.31	2.6 / 0.04	0.3 / 0.02	0.1	17	AS 0.00 ABS 0.0 PO_4 0.00	131[f] / 127[g]	32	72	0	25		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0/0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (NO. 5)
DUTCH SLOUGH AT FARRAR PARK BRIDGE (STA. 1084)

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

DUTCH SLOUGH AT FARRAR PARK BRIDGE (STA. 108b)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million equivalents per million												Total dissolved solids in ppm[g]	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents			Total ppm	N.C. ppm			
1962																									
10/17 1045		62			321														244						USBR
1963																									
4/8 1430					488														322						
5/13 1340		61			272														192						
6/11 1245		72			189				13					21					136	30					
7/9 1105		74			212														172						
8/12 1205		73			427														324						
9/10 1330		72			383														256						

o Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

ELDER CREEK AT GERBER (STA. 95a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Mineral constituents in equivalents per million										Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)						
10/62																																	USGS
11/1 0815	DRY																																
11/1 1400	DRY																																
12/10 1110	23	50	11.5	102	400	8.1 / 7.7	— / 3.43		18 / 0.78		3 / 0.10	186 / 3.09		31 / 0.87			0.0		Tot. alk. 123											19	171	13	3		
10/62																																		
1/1 1440	15	53	11.7	107	440	7.6 / 8.5	— / 3.81[e]		20 / 0.87		2 / 0.30	196 / 3.21		35 / 0.99			0.0		Tot. alk. 218											19	190	15	1		
2/11 1152	380	51	11.2	100	175	7.6 / 8.0	— / 1.62[e]		4.7 / 0.20		0 / 0.00	97 / 1.59		3.5 / 0.10			0.1													11	81	1	280		
3/1 1625	68	57	11.8	113	357	8.2 / 8.3	— / 3.36[e]		13 / 0.56		6 / 0.20	185 / 3.03		16 / 0.45			0.0		Tot. alk. 197											13	168	6	1		
4/5 1500	18	57	10.2	99	348	7.1 / 8.0	— / 2.74[e]		8.0 / 0.35		4 / 0.13	158 / 2.59		8.2 / 0.23			0.1		Tot. alk. 166											11	137	1	14		
5/3 1320	170	69	9.7	108	246	8.1 / 8.1	21 / 1.05	16 / 1.29	7.1 / 0.31	0.8 / 0.02	4 / 0.13	137 / 2.25	10 / 0.21	4.2 / 0.12	0.5 / 0.01	0.1 / 0.01	0.0	12	Tot. alk. 145 PO_4 0.05	146[f] 143[f]	12	117	0	3		
6/5 1430	34	79	7.4	104	354	8.2 / 8.2	— / 2.90[e]		12 / 0.52		2 / 0.30	185 / 3.03		16 / 0.45			0.0		Tot. alk. 203											13	168	2	2		
7/11 0815	53	72	10.0	125	424	8.1 / 8.1	— / 4.04[e]		16 / 0.70		11 / 0.37	199 / 3.26		28 / 0.79			0.0		Tot. alk. 229											15	202	22	50		
8/9 1030	6 (est.)	79	14.1	174	468	8.3 / 8.4	— / 4.01[e]		18 / 0.78		1 / 0.03	230 / 3.77		28 / 0.79			0.0		Tot. alk. 244											14	230	30	14		
9/13	DRY																																

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

ELDER CREEK NEAR PASKENTA (STA. 15F)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
1962																										USGS
10/13 1240	28	58	10.0	97	454	8.1 / 8.3	3.58		1.09		0 / 0	180 / 2.95		1.30			0.1		Tot. alk. 1[illegible]		2[illegible]	1[illegible]	[illegible]	7		
11/28 1210	43	46	11.6	97	368	8.1 / 8.1	3.00		18 / 0.78		0 / 0.00	172 / 2.82		29 / 0.82			0.0				20	1[illegible]	1[illegible]	[illegible]		
12/19 1300	91	49	11.3	98	335	7.[illegible] / 8.4	3.02		14 / 0.61		4 / 0.13	167 / 2.74		16 / 0.45			0.1		T t. alk. 1[illegible]		17	151	7	3[illegible]		
1963																										
1/16 1310	17	37	14.[illegible]	103	496	8.[illegible] / 8.3	4.1[illegible]		28 / 1.22		2 / 0.17	206 / 3.38		48 / 1.35			0.0		Tot. alk. [illegible]1[illegible]		23	2[illegible]1	[illegible]	1		
2/20 1135	185	53	11.[illegible]	103	288	8.[illegible] / 8.3	2.74		8.9 / 0.39		2 / 0.07	160 / 2.62		7.8 / 0.22			0.0		Tot. alk. 16[illegible]		17	[illegible]37	1	[illegible]5		
3/20 1140	[illegible]5	53	11.[illegible]	101	380	8.[illegible] / 8.4	3.50		15 / 0.67		4 / 0.13	[illegible]00 / 3.28		12 / 0.34			0.0		Tot. alk. 2[illegible]8		14	[illegible]7[illegible]	[illegible]	1		
4/17 1200	380	49	11.[illegible]	10[illegible]	234	8.[illegible] / 8.[illegible]	2.28		5.7 / 0.25		0 / 0.00	127 / 2.25		4.2 / 0.12			0.0				1[illegible]	11[illegible]	[illegible]	4		
[illegible]/15 153[illegible]	1[illegible]	73	8.4	98	260	8.[illegible] / 8.4	28 / 1.40	14 / 1.14	7.5 / 0.33	0.4 / 0.01	2 / 0.17	142 / 2.33	10 / 0.21	10 / 0.28	0.5 / 0.01	0.0[illegible] / 0.00	0.0	16	Tot. alk. 12[illegible] PO_4 0.[illegible]2	161[f] 150[g]	11	1[illegible]7	[illegible]	[illegible]		
6/6 1115	44	66	9.1	99	345	8.[illegible] / 8.[illegible]	3.51		11 / 0.48		10 / 0.33	176 / 2.88		18 / 0.51			0.[illegible]		Tot. alk. 1[illegible]		1[illegible]	166	[illegible]	1		
7/9 0945	17	71	10.3	118	426	8.4 / 8.6	3.76		20 / 0.87		10 / 0.33	198 / 3.25		34 / 0.96			0.0[illegible]		Tot. alk. 1[illegible]8		19	188	[illegible]	1		
8/7 1050	4	80	8.8	110	562	8.[illegible] / 8.5	4.15		32 / 1.40		8 / 0.27	193 / 3.16		76 / 2.14			0.[illegible]		Tot. alk. 21[illegible]		29	208	36	1		
9/11 1230	3	77	9.8	119	758	8.[illegible] / 8.[illegible]	36 / 1.80	35 / 2.84	63 / 2.74	1.6 / 0.04	8 / 0.27	192 / 3.15	9.0 / 0.19	138 / 3.89	0.3 / 0.00	0.2 / 0.01	0.1	14	Tot. alk. 20[illegible] PO_4 0.[illegible]2 As 0.01 ABS 0.0[illegible]	399[f] 426[g]	31	232	61	1		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

FALSE RIVER AT WEBB PUMP (STA. 112a)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million equivalents per million												Total dissolved solids in ppm[g]	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents			Total ppm	N.C ppm			
1962																									
10/17 0935		62			231															216					USBR
1963																									
4/8 1240					349															240					
5/13 1230		62			194															140					
6/11 1335		71			150															124					
7/9 1335		72			188															128					
8/12 1035		71			284															220					
9/10 1140		70			279															212					

o Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc (TTL); or California Department of Water Resources (DWR), as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

FEATHER RIVER, MIDDLE FORK NEAR MERRIMAC (STA. 19b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chlorides (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents			Total ppm	N.C. ppm			
1963																									
7/9 1335	442	66	9.9	113	116	a 8.0 / b	1.00[c]		4.4 / 0.19		0 / 0.00	68 / 1.11		1.6 / 0.05			0.0				16	50	0	1	Median 1.3	USGS
8/7 1030	251	66	9.1	104	132	7.9 / 8.0	1.22[c]		4.8 / 0.21		0 / 0.00	73 / 1.20		1.8 / 0.05			0.0				15	61	1	1	Maximum 23.	
9/12 1200	195	62	9.3	101	137	7.7 / 7.9	17 / 0.85	3.8 / 0.31	4.8 / 0.21	1.0 / 0.03	0 / 0.00	75 / 1.23	5.0 / 0.10	2.0 / 0.06	1.0 / 0.02	0.1 / 0.01	0.1	14	AS 0.00 ABS 0.0 PO_4 0.05		86[f] 87[g]	15	58	0	3	Minimum .23	

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

FEATHER RIVER AT NICOLAUS (STA. 20)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million — Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
							equivalents per million																			
1962																										
10/1 1450	1350	73	9.5	110	123	7.5 / 7.5	[1.10][c]		5.6 / 0.24		0 / 0.00	73 / 1.20		2.2 / 0.06			0.0			83[e]	18	55	0	4	Median 230.	USGS
11/1 0950	6180	60	9.0	90	113	6.7 / 7.3	[0.94][c]		4.4 / 0.19		0 / 0.00	62 / 1.02		3.6 / 0.10			0.0			76[e]	17	47	0	8	Maximum 2400.	
12/3 1035	8380	50	11.0	97	105	7.3 / 7.4	[0.88][c]		4.1 / 0.18		0 / 0.00	56 / 0.92		3.0 / 0.08			0.1			71[e]	17	44	0	5	Minimum 5.	
1963																										
1/2 1005	6190	41	12.2	95	99	7.2 / 7.3	[0.84][c]		3.6 / 0.16		0 / 0.00	52 / 0.85		3.0 / 0.08			0.0			67[e]	16	42	0	10		
2/1 1610	260000	55	11.3	106	47	7.1 / 6.8	[0.37][c]		2.1 / 0.09		0 / 0.00	18 / 0.30		2.6 / 0.07			0.0			32[e]	20	18	3	60		
3/5 1500	7780	51	11.3	101	108	7.3 / 7.7	[0.91][c]		3.7 / 0.16		0 / 0.00	58 / 0.95		1.8 / 0.05			0.1			73[e]	15	46	0	7		
4/2 1500	17300	51	10.8	96	93	7.3 / 7.5	[0.76][c]		3.2 / 0.14		0 / 0.00	46 / 0.75		3.2 / 0.09			0.0			62[e]	16	38	0	50		
5/9 1415	26900	57	10.8	104	67	7.3 / 7.5	7.4 / 0.37	2.3 / 0.19	2.8 / 0.12	0.3 / 0.01	0 / 0.00	34 / 0.56	3.0 / 0.06	0.6 / 0.02	0.5 / 0.01	0.2 / 0.01	0.0	13	AS 0.01 ABS 0.0 PO_4 0.05	47[f] / 54[g]	17	28	0	40		
6/3 0700	9960	62	8.9	91	75	7.5 / 7.8	[0.67][c]		3.3 / 0.14		0 / 0.00	40 / 0.66		1.7 / 0.05			0.1			50[e]	17	33	0	45		
7/9 0730	1930	70	8.7	97	119	7.8	[1.01][c]		4.3 / 0.19		0 / 0.00	67 / 1.10		2.1 / 0.06			0.0			80[e]	16	50	0	5		
8/6 1045	550 est.	79	7.6	93	164	7.7 / 8.0	[1.42][c]		5.9 / 0.26		0 / 0.00	88 / 1.44		3.2 / 0.09			0.0			110[e]	15	71	0	3		
9/13 0745	1160	71	7.7	87	149	7.6	16 / 0.80	6.1 / 0.50	5.1 / 0.22	1.7 / 0.04	0 / 0.00	78 / 1.28	6.6 / 0.14	3.3 / 0.09	7.1 / 0.11	0.2 / 0.01	0.0	16	AS 0.02 ABS 0.0 PO_4 0.10	100[f] / 100[g]	14	65	1	7		

o Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

FEATHER RIVER, NORTH FORK AT BIG BAR (STA. 19a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Mineral constituents in ppm equivalents per million: Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1963																										
7/10 0925	50	62	10.3	110	107	7.9	0.91 c		3.9 / 0.17		0 / 0.00	64 / 1.05		0.6 / 0.02			0.0				16	46	0	1	Median 13.	USGS
8/7 1320	49	69	10.0	115	106	8.1 / 7.9	0.92 c		3.8 / 0.17		0 / 0.00	62 / 1.02		1.5 / 0.04			0.0				16	46	0	1	Maximum 92.	
9/13 0920	56	65	9.9	109	114	7.5 / 7.6	11 / 0.55	5.1 / 0.42	4.3 / 0.19	1.7 / 0.04	0 / 0.00	67 / 1.10	1.0 / 0.02	1.5 / 0.04	1.2 / 0.02	0.1 / 0.01	0.0	13	AS 0.00 ABS 0.0 PO_4 0.05	72 f / 70 g	16	48	0	3	Minimum 2.3	

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

FEATHER RIVER NEAR OROVILLE (STA. 19)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/1 0940		64	9.7	102	117	6.6 / 7.6	0.96[c]		5.3 / 0.23		0 / 0.00	72 / 1.18		1.2 / 0.03			0.0			78[e]	19	48	0	4	Median 23.	USGS
11/1 1455		59	10.8	108	104	7.4 / 7.7	0.90[c]		4.7 / 0.20		0 / 0.00	62 / 1.02		2.1 / 0.06			0.0			69[e]	18	45	0	4	Maximum 1300.	
12/3 1525		50	12.5	111	57	7.2 / 7.3	0.47[c]		3.1 / 0.13		0 / 0.00	30 / 0.49		1.0 / 0.03			0.0			38[e]	22	23	0	15	Minimum 0.23	
1963																										
1/2 1250	3430	42	13.4	107	92	7.3 / 7.5	0.76[c]		3.8 / 0.17		0 / 0.00	52 / 0.85		2.2 / 0.06			0.0			61[e]	18	38	0	2		
2/1 1350	110000	50	14.1	126	57	7.3 / 6.8	0.48[c]		2.4 / 0.10		0 / 0.00	28 / 0.46		3.2 / 0.09			0.0			38[e]	17	24	1	50		
3/5 1045	3970	47	12.8	110	86	7.3 / 7.9	0.71[c]		3.4 / 0.15		0 / 0.00	49 / 0.80		1.8 / 0.05			0.1			57[e]	17	36	0	4		
4/2 1100	9400	45	12.9	108	91	7.3 / 7.9	0.74[c]		3.0 / 0.13		0 / 0.00	50 / 0.82		3.0 / 0.08			0.1			61[e]	15	37	0	15		
5/9 0945	15000	51	12.1	109	64	7.3 / 7.4	7.2 / 0.36	2.2 / 0.18	2.9 / 0.13	0.4 / 0.01	0 / 0.00	35 / 0.57	2.0 / 0.04	0.6 / 0.02	0.3 / 0.00	0.2 / 0.01	0.1	15	AS 0.00 ABS 0.0 PO_4 0.05	48[f] 50[g]	19	27	0	20		
6/3 0950	5790	59	10.4	104	82	7.7 / 7.8	0.67[c]		3.5 / 0.15		0 / 0.00	44 / 0.72		1.4 / 0.04			0.0			55[e]	18	33	0	20		
7/9 0915	3320	64	10.2	108	101	7.7	0.85[c]		4.2 / 0.18		0 / 0.00	59 / 0.97		1.4 / 0.04			0.1			67[e]	17	42	0	4		
8/6 1330	1820	69	9.3	104	103	7.9 / 7.8	0.90[c]		9.2 / 0.18		0 / 0.00	60 / 0.98		1.8 / 0.05			0.1			69[e]	17	45	0	6		
9/12 1420	1830	66	9.3	100	114	7.7 / 7.7	12 / 0.60	4.1 / 0.34	4.5 / 0.20	1.7 / 0.04	0 / 0.00	66 / 1.08	1.0 / 0.02	1.8 / 0.05	,1.4 / 0.02	0.1 / 0.01	0.0	11	AS 0.00 ABS 0.0 PO_4 0.05	71[e]	17	47	0	50		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-4

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

FEATHER RIVER BELOW SHANGHAI BEND (STA. 20a)

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

FEATHER RIVER BELOW SHANGHAI BEND (STA. 20a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonates (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/1 1400	1600	71	9.1	103	123	7.3 / 7.6	1.06[c]		5.2 / 0.23		0 / 0.00	72 / 1.18		1.8 / 0.05			0.0			81[e]	18	53	0	15	Median 230.	USGS
11/1 1030	5990	58	9.8	96	109	7.1 / 7.5	0.91[c]		4.8 / 0.21		0 / 0.00	63 / 1.03		2.8 / 0.08			0.0			72[e]	19	46	0	10	Maximum 7000.	
12/3 1120	19000 est.	50	11.1	98	93	7.3 / 7.3	0.79[c]		3.9 / 0.17		0 / 0.00	50 / 0.82		2.6 / 0.07			0.0			61[e]	18	39	0	30	Minimum 6.2	
1963																										
1/2 1040	5910	41	12.4	97	97	7.2 / 7.8	0.80[c]		3.8 / 0.17		0 / 0.00	54 / 0.89		1.5 / 0.04			0.0			64[e]	18	40	0	8		
2/5 1500	37400	51	11.4	102	64	7.1 / 7.0	0.52[c]		3.1 / 0.13		0 / 0.00	33 / 0.54		2.0 / 0.06			0.0			42[e]	20	26	0	50		
3/5 1415	6370	50	11.4	100	99	7.3 / 7.7	0.83[c]		3.7 / 0.16		0 / 0.00	54 / 0.89		2.5 / 0.07			0.1			65[e]	16	42	0	10		
4/2 1415	15600	50	11.7	103	91	7.3 / 7.6	0.74[c]		3.0 / 0.13		0 / 0.00	50 / 0.82		2.2 / 0.06			0.0			60[e]	15	37	0	25		
5/9 1315	2550	54	11.2	104	61	7.3 / 7.6	6.8 / 0.34	2.2 / 0.18	2.2 / 0.10	0.5 / 0.01	0 / 0.00	34 / 0.56	3.0 / 0.06	1.5 / 0.04	0.2 / 0.00	0.0 / 0.00	0.0	14	PO_4 0.05	47[f] / 54[g]	16	26	0	30		
6/3 0800	9490	60	9.4	94	76	7.3 / 7.8	0.62[c]		3.3 / 0.14		0 / 0.00	40 / 0.66		2.0 / 0.06			0.0			50[e]	18	31	0	30		
7/9 0830	2090	71	8.4	95	121	/ 7.4	1.02[c]		4.4 / 0.19		0 / 0.00	66 / 1.08		2.2 / 0.06			0.0			80[e]	16	51	0	10		
8/6 1135	658	78	7.8	95	165	7.5 / 7.8	1.42[c]		6.1 / 0.27		0 / 0.00	86 / 1.41		4.2 / 0.12			0.0			109[e]	16	71	0	3		
9/13 0625	1050	70	7.5	84	139	/ 7.7	16 / 0.80	4.9 / 0.40	5.1 / 0.22	1.1 / 0.03	0 / 0.00	76 / 1.25	7.0 / 0.15	3.0 / 0.08	1.2 / 0.02	0.0 / 0.00	0.0	15	AS 0.02 ABS 0.0 PO_4 0.10	90[f] / 90[g]	15	60	0	10		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

FEATHER RIVER, SOUTH FORK BELOW PONDERSON DAM (STA. 19c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million / equivalents per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents			Total ppm	N.C. ppm			
1963																									
7/9 1115	112	56	11.1	109	45	7.5	0.36[c]		2.1 / 0.09		0 / 0.00	23 / 0.38		0.8 / 0.02			0.0				20	18	0	2	Median 2.1	USGS
8/7 0805	38	57	9.8	97	45	6.9 / 7.5	0.36[c]		2.1 / 0.09		0 / 0.00	23 / 0.38		1.0 / 0.03			0.0				20	18	0	2	Maximum 62.	
9/12 0950	37	62	9.7	102	46	6.8 / 7.4	5.0 / 0.25	1.3 / 0.11	2.1 / 0.09	0.5 / 0.01	0 / 0.00	24 / 0.39	1.0 / 0.02	0.8 / 0.02	0.5 / 0.01	0.1 / 0.01	0.0	11	AS 0.01 ABS 0.0 PO_4 0.00	34[f] / 40[g]	20	18	0	2	Minimum 0.6	

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-4

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

DELTA-MENDOTA CANAL AT TRACY ROAD BRIDGE (STA. 193)

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

GRANT LINE CANAL AT TRACY ROAD BRIDGE (STA. 103a)

Date and time sampled P.S.T	Discharge in cfs	Temp. in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962	Tidal																									
10/4 1345		68	10.7	117	866	8.3 / 7.8	3.98[c]		104 / 4.52		0 / 0.00	179 / 2.93		143 / 4.03			0.1			476[e]	53	199	52	6	Median 230.	USGS
11/14 1000		60	7.8	78	704	7.4	3.13[c]		83 / 3.61		0 / 0.00	132 / 2.16		118 / 3.33			0.1			387[e]	54	156	48	10	Maximum 7000.	
12/11 1200		51	8.9	79	434	7.3 / 7.5	1.88[c]		46 / 2.00		0 / 0.00	77 / 1.26		70 / 1.97			0.1			239[e]	52	94	31	10	Minimum 13.	
1963																										
1/7 1100		47	9.5	81	555	7.3 / 7.6	2.42[c]		62 / 2.70		0 / 0.00	98 / 1.61		70 / 1.97			0.3			323[e]	53	121	41	9		
2/7 1300		55	9.1	86	151	7.1 / 7.1	0.76[c]		14 / 0.61		0 / 0.00	39 / 0.64		16 / 0.45			0.1			88[e]	45	38	6	100		
3/12 1045		57	8.8	85	849	7.3 / 7.8	3.58[c]		103 / 4.48		0 / 0.00	132 / 2.16		132 / 3.72			0.4			494[e]	56	179	71	20		
4/9 1130		59	8.9	88	285	7.1 / 7.5	1.46[c]		26 / 1.13		0 / 0.00	67 / 1.10		36 / 1.02			0.0			166[e]	44	73	18	25		
5/13 1045		60	8.8	88	125	7.2 / 7.6	9.6 / 0.48	3.6 / 0.30	10 / 0.44	1.6 / 0.04	0 / 0.00	47 / 0.77	7.0 / 0.15	12 / 0.34	2.0 / 0.03	0.1 / 0.01	0.1	16	PO4 0.20	85[f] / 97[g]	35	39	0	20		
6/5 0755		64	8.6	90	136	7.0 / 7.6	0.75[c]		12 / 0.52		0 / 0.00	40 / 0.66		16 / 0.45			0.0			79[e]	41	37	4	20		
7/9 1115		73	8.9	103	746	7.7 / 7.8	3.36[c]		77 / 3.33		0 / 0.00	319 / 2.28		119 / 3.36			0.2			434[e]	50	168	54	25		
8/7 0800		75	6.5	77	1020	7.5 / 7.9	5.22[c]		113 / 4.92		0 / 0.00	174 / 2.85		192 / 5.42			0.4			593[e]	49	261	118	130		
9/10 1330		76	8.1	97	934	7.9 / 7.9	49 / 2.45	22 / 1.79	105 / 4.57	4.0 / 0.10	0 / 0.00	180 / 2.95	66 / 1.37	162 / 4.57	1.8 / 0.03	0.1 / 0.01	0.1	26	AS 0.02 ABS 0.1 PO4 0.45	525[f] / 555[g]	51	212	64	50		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0/0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

INDIAN CREEK NEAR CRESCENT MILLS (STA. 17d)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform h MPN/ml	Analyzed by i
							equivalents per million																			
1962																										
10/18 0950	1150	45	9.8	92	95	7.2 / 7.3	0.84 c		4.7 / 0.20		0 / 0.00	50 / 0.82		2.0 / 0.06			0.0			65 e	19	42	1	50	Median 23.	
11/21 1020	192	42	11.0	99	139	7.0 / 7.9	1.11 c		7.2 / 0.31		0 / 0.00	80 / 1.31		3.8 / 0.11			0.0			95 e	22	55	0	4	Maximum 620.	
12/18 1500	1400	45	10.5	99	94	7.1 / 7.9	0.75 c		4.7 / 0.20		0 / 0.00	53 / 0.87		2.0 / 0.06			0.0			64 e	21	38	0	25	Minimum 0.62	
1963																										
1/15 1400	165	34	10.6	84	138	7.1 / 7.8	1.14 c		7.0 / 0.30		0 / 0.00	78 / 1.28		4.5 / 0.13			0.0			94 e	21	57	0	9		
2/19 1350	980	44	10.7	99	98	6.8 / 7.5	0.80 c		5.3 / 0.23		0 / 0.00	56 / 0.92		2.2 / 0.06			0.0			67 e	22	40	0	10		
3/19 1540	397	46	11.5	109	117	7.3 / 8.0	0.90 c		5.3 / 0.23		0 / 0.00	69 / 1.13		2.0 / 0.06			0.0			80 e	19	48	0	15		
4/16 1445	3280	44	10.9	101	77	7.1 / 7.7	0.62 c		3.5 / 0.15		0 / 0.00	44 / 0.72		0.4 / 0.01			0.0			52 e	19	31	0	20		
5/14 1320	1510	51	10.2	104	85	7.3 / 7.9	9.6 / 0.48	2.4 / 0.20	4.2 / 0.18	0.8 / 0.02	0 / 0.00	49 / 0.80	1.4 / 0.03	1.2 / 0.03	0.3 / 0.00	0.0 / 0.00	0.0	25	PO_4 0.05	69 f / 76 g	20	34	0	15		
6/4 1250	675	59	9.2	103	101	7.2 / 7.9	0.86 c		4.4 / 0.19		0 / 0.00	60 / 0.98		0.6 / 0.02			0.0			69	18	43	0	15		
7/10 0740	99	60	10.0	114	156	7.7	1.30 c		7.2 / 0.31		0 / 0.00	92 / 1.51		3.4 / 0.10			0.0			106 e	19	65	0	2		
9/12 0750	56	55	7.4	79	203	6.7 / 7.4	21 / 1.05	6.7 / 0.55	11 / 0.48	3.5 / 0.09	0 / 0.00	106 / 1.74	9.0 / 0.19	10 / 0.28	0.2 / 0.00	0.0 / 0.00	0.0	24	AS 0.01 ABS 0.0 PO_4 0.20	137 f / 133 g	22	80	0	30		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR), as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

INDIAN SLOUGH NEAR BRENTWOOD (STA. 107)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
							equivalents per million																			
1962	Tidal																									
10/4 1005		67	6.6	70	539	7.3 / 7.6	2.36[c]		66 / 2.87		0 / 0.00	116 / 1.90		86 / 2.43			0.5			300[e]	55	118	23	25	Median 23.	USGS
11/13 1245		60	9.5	95	1200	8.1 / 8.0	6.56[c]		134 / 5.83		0 / 0.00	306 / 5.02		157 / 4.43			2.0			668[e]	47	328	77	6	Maximum 7000.	
12/10 1220		53	10.8	99	1350	8.1 / 8.1	6.18[c]		170 / 7.40		0 / 0.00	337 / 5.52		180 / 5.08			2.2			752[e]	54	309	33	7	Minimum 1.3	
1963																										
1/8 1135		56	10.1	96	1210	8.1 / 8.1	6.92[c]		127 / 5.52		0 / 0.00	340 / 5.57		154 / 4.34			2.3			674[e]	44	346	67	3		
2/6 1355		63	8.2	85	1590	7.9 / 8.3	8.08[c]		206 / 8.96		5 / 0.17	386 / 6.33		212 / 5.98			3.0			886[e]	53	404	79	15		
3/13 1245		61	10.5	106	1210	8.1 / 8.0	6.40[c]		135 / 5.87		0 / 0.00	295 / 4.84		164 / 4.63			2.0			674[e]	48	320	78	2		
4/10 1115		61	10.7	108	1220	8.1 / 8.0	6.98[c]		127 / 5.52		0 / 0.00	336 / 5.51		155 / 4.37			2.3			916 / 760	44	349	73	1		
5/13 1145		68	13.5	148	1230	8.1 / 8.3	65 / 3.24	41 / 3.34	139 / 6.05	2.2 / 0.06	10 / 0.33	300 / 4.92	106 / 2.21	172 / 4.85	12 / 0.19	0.4 / 0.02	2.4	21	PO_4 0.20	719[f] / 700[g]	48	329	67	25		
6/5 1000		69	8.0	89	189	7.3 / 7.2	1.00[c]		18 / 0.78		0 / 0.00	47 / 0.77		24 / 0.68			0.0			105[e]	44	50	11	30		
7/10 1130		77	6.0	72	232	7.9	1.40[c]		19 / 0.83		0 / 0.00	68 / 1.11		27 / 0.76			0.2			129[e]	37	70	14	70		
8/6 1000		77	7.1	86	239	7.3 / 8.1	1.43[c]		21 / 0.91		0 / 0.00	82 / 1.34		23 / 0.65			0.2			133[e]	39	71	4	170		
9/10 1150		76	7.4	88	359	7.3 / 7.9	19 / 0.95	10 / 0.82	36 / 1.57	2.1 / 0.05	0 / 0.00	97 / 1.59	28 / 0.58	45 / 1.27	2.8 / 0.05	0.2 / 0.01	0.0	18	AS 0.00 ABS 0.0 PO_4 0.15	209[f] / 210[g]	46	89	9	30		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

ITALIAN SLOUGH NEAR MOUTH (STA. 106)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million / equivalents per million												Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (No)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)				Total ppm	N.C. ppm			
1962	Tidal																									
10/4 1045		68	7.8	86	394	7.4 / 7.6	1.82[c]		46 / 2.00		0 / 0.00	93 / 1.52		61 / 1.72			0.1			225[e]	52	91	15	10	Median 6.2	USGS
11/13 1355		62	7.9	81	869	7.4 / 8.0	3.76[c]		101 / 4.39		0 / 0.00	124 / 2.03		154 / 4.34			0.5			496[e]	54	188	86	10	Maximum 7000.	
12/10 1255		51	6.6	59	729	7.3 / 7.6	3.00[c]		82 / 3.57		0 / 0.00	113 / 1.85		125 / 3.53			0.5			416[e]	54	150	57	10	Minimum 0.62	
1963																										
1/7 1345		46	7.7	64	722	7.1 / 7.7	2.94[c]		85 / 3.70		0 / 0.00	104 / 1.70		134 / 3.78			0.9			412[e]	56	157	62	10		
2/6 1315		59	7.5	74	751	7.3 / 7.5	3.06[c]		93 / 4.05		0 / 0.00	97 / 1.59		127 / 3.58			0.7			429[e]	57	153	73	35		
3/13 1200		57	8.3	80	721	7.3 / 7.7	2.63[c]		91 / 3.96		0 / 0.00	101 / 1.66		123 / 3.47			0.9			412[e]	60	132	49	30		
4/10 1030		59	8.5	84	631	7.3 / 7.6	2.50[c]		73 / 3.18		0 / 0.00	89 / 1.46		100 / 2.82			0.7			360[e]	56	125	52	15		
5/7 1215		68	9.6	105	506	7.5 / 7.6	23 / 1.15	9.4 / 0.77	62 / 2.70	2.4 / 0.06	0 / 0.00	86 / 1.41	43 / 0.90	88 / 2.48	0.5 / 0.01	0.1 / 0.01	0.8	10	PO_4 0.10	281[f] 287[g]	58	96	25	20		
6/5 1120		68	8.6	94	153	7.2 / 7.4	10 / 0.50	4.0 / 0.33	13 / 0.57		0 / 0.00	40 / 0.66	12 / 0.25	19 / 0.54	1.8 / 0.03		0.0			87[e]	41	41	8	10		
7/9 0945		73	7.7	89	249	7.3 / 7.9	17 / 0.85	7.5 / 0.62	22 / 0.96				23 / 0.48	31 / 0.87	2.2 / 0.04	0.0 / 0.00	0.2			142[e]	40	74				
8/6 0900		76	7.1	85	231	7.3 / 7.8	15 / 0.75	7.8 / 0.64	17 / 0.74				18 / 0.37	23 / 0.65	0.6 / 0.01		0.0			132[e]	35	69		25		
9/10 1130		76	7.3	87	305	7.3 / 7.9	17 / 0.85	9.6 / 0.79	28 / 1.22	1.8 / 0.05	0 / 0.00	86 / 1.41	23 / 0.48	34 / 0.96	2.0 / 0.03	0.2 / 0.01	0.0	13	AS 0.01 ABS 0.0 PO_4 0.20	171[f] 179[g]	42	82	11	10		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Technical Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR), as indicated.

ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (NO. 5)
LINDSEY SLOUGH NEAR RIO VISTA (STA. 110)

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

LINDSEY SLOUGH NEAR RIO VISTA (STA. 110)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
1962																										
10/3 0910		66	8.2	88	208	7.4 / 7.9	1.52[c]		15 / 0.65		0 / 0.00	98 / 1.61		11 / 0.31			0.0			127[e]	30	76	0	50	Median 23.	USGS
11/8 1040		60	5.7	57	256	7.3 / 7.7	1.68[c]		19 / 0.83		0 / 0.00	101 / 1.66		17 / 0.48			0.1			156[e]	33	84	1	30	Maximum >7000.	
12/5 1040		51	8.9	79	253	7.3 / 7.6	1.75[c]		18 / 0.78		0 / 0.00	101 / 1.66		15 / 0.42			0.1			154[e]	31	88	5	40	Minimum 2.3	
1963																										
1/15 1045		41	11.5	90	380	7.6 / 8.0	2.36[c]		39 / 1.70		0 / 0.00	132 / 2.16		28 / 0.79			0.2			231[e]	42	118	10	70		
2/4 1130		55	7.5	70	171	7.3 / 7.3	1.11[c]		14 / 0.61		0 / 0.00	68 / 1.11		8.8 / 0.25			0.1			104[e]	35	56	0	800		
3/14 1045		54	9.7	90	487	7.7 / 7.9	3.01[c]		44 / 1.91		0 / 0.00	170 / 2.79		37 / 1.04			0.3			297[e]	39	151	12	45		
4/11 1100		59	9.1	90	406	7.9 / 8.1	2.90[c]		29 / 1.26		0 / 0.00	167 / 2.74		24 / 0.68			0.5			247[e]	30	145	8	30		
5/14 1000		64	8.9	93	374	7.7 / 7.9	23 / 1.15	18 / 1.49	28 / 1.22	1.8 / 0.05	0 / 0.00	157 / 2.57	34 / 0.71	22 / 0.62	2.7 / 0.04	0.3 / 0.02	0.4	17	PO_4 0.25	224[f] / 233[g]	31	132	3	35		
6/4 0945		67	8.9	96	368	7.9 / 7.9	2.40[c]		30 / 1.30		0 / 0.00	139 / 2.28		24 / 0.68			0.2			224[e]	35	120	6	40		
7/8 1140		72	9.0	103	288	/ 8.2	1.93[c]		23 / 1.00		0 / 0.00	115 / 1.88		19 / 0.54			0.2			175[e]	34	97	3	55		
8/8 0945		69	7.7	85	226	7.7 / 7.9	1.57[c]		16 / 0.70		0 / 0.00	95 / 1.56		13 / 0.37			0.2		Color 35 Odor<1	138[e]	31	79	1	120		
9/11 1215		73	8.0	92	239	7.7 / 8.1	15 / 0.75	11 / 0.87	12 / 0.74	1.5 / 0.04	0 / 0.00	92 / 1.51	15 / 0.31	13 / 0.37	2.1 / 0.03	0.1 / 0.01	0.0	22	AS 0.02 ABS 0.0 PO_4 0.30	142[f] / 151[g]	31	81	6	50		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR), as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

LITTLE POTATO SLOUGH AT TERMINOUS (STA. 99)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962	TIDAL																									
10/8 0850		65	7.6	81	205	7.3 / 7.5	1.38[c]		14 / 0.61		0 / 0.00	84 / 1.38		19 / 0.54			0.0			123[e]	31	69	0	6	Median 62.	USGS
11/14 1050		58	7.5	73	190	7.3 / 7.7	1.40[c]		13 / 0.57		0 / 0.00	72 / 1.18		17 / 0.48			0.0			114[e]	29	70	0	40	Maximum 7000.	
12/4 1015		51	9.3	83	167	7.1 / 7.4	1.14[c]		10 / 0.44		0 / 0.00	61 / 1.00		16 / 0.45			0.0			100[e]	28	57	7	15	Minimum 6.2	
1963																										
1/7 1050		45	10.0	82	266	7.1 / 7.7	1.72[c]		18 / 0.78		0 / 0.00	78 / 1.28		38 / 1.07			0.0			160[e]	31	86	22	15		
2/5 1315		56	6.3	60	158	6.7 / 6.8	1.01[c]		9.2 / 0.40		0 / 0.00	33 / 0.54		13 / 0.37			0.1			95[e]	28	50	23	150		
3/11 1445		55	10.0	94	144	7.3 / 7.6	1.00[c]		7.8 / 0.34		0 / 0.00	58 / 0.95		12 / 0.34			0.0			86[e]	25	50	2	7		
4/8 1445		58	9.1	89	198	7.3 / 7.4	1.43[c]		10 / 0.44		0 / 0.00	68 / 1.11		20 / 0.56			0.0			119[e]	24	72	16	25		
5/6 1415		65	9.0	95	116	7.3 / 7.6	9.6 / 0.48	4.6 / 0.38	5.7 / 0.25	1.2 / 0.03	0 / 0.00	49 / 0.80	7.0 / 0.15	7.6 / 0.21	0.6 / 0.01	0.0 / 0.00	0.0	17	PO_4 0.15	77[f] / 87[g]	22	43	3	30		
6/4 0720		68	8.6	94	90	7.3 / 7.4	0.59[c]		5.5 / 0.24		0 / 0.00	32 / 0.52		9.0 / 0.25			0.0			54[e]	29	30	4	20		
7/8 1240		70	8.3	93	180	/ 7.6	1.29[c]		12 / 0.52		0 / 0.00	67 / 1.10		16 / 0.45			0.0			108[e]	29	64	9	25		
9/11 0850		72	6.9	79	232	7.3 / 7.6	16 / 0.80	9.2 / 0.76	18 / 0.78	1.4 / 0.04	0 / 0.00	101 / 1.66	7.0 / 0.15	18 / 0.51	0.4 / 0.01	0.0 / 0.00	0.0	20	AS 0.01 ABS 0.0 PO_4 0.25	140[f] / 136[g]	33	78	0	25		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 1)

MCCLOUD RIVER ABOVE SHASTA LAKE (STA. 18)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
1/6																										USGS
10/3 0900	964	61	11.2	100	95	7.2 7.8	0.80[c]		5.4 0.23		0 0.00	58 0.95		0.8 0.02			0.0				22	40		1	Median 13.	
11/14 1045	1,140	47	12.7	101	97	7.3 7.9	0.75[c]		5.7 0.25		0 0.00	55 0.90		2.2 0.07			0.0				25	38	0	5	Max. 23.	
12/11 0900	1,500	45	11.2	101	96	7.3 8.0	0.77[c]		4.0 0.17		0 0.00	57 0.93		0.5 0.01			0.0				18	32	0	0	Mi .23	
1/63																										
1/2 0915	1,870	41	12.4	101	95	7.4 7.9	0.78[c]		4.4 0.19		0 0.00	55 0.90		2.7 0.08			0.0				20	34	0	3		
3/5 0900	1,5	45	11.9	101	82	7.1 7.7	0.71[c]		3.2 0.14		0 0.00	48 0.79		2.2 0.07			0.2				16	36	3	1		
5/5 1300	1,4	58	11.5	101	97	7.3 7.9	0.80[c]		3.9 0.17		0 0.00	57 0.93		2.2 0.07			0.2				19	36	0	2		
7/8 0915	1,4	68	11.7	112	91	7.3 8.0	1.00[c]		2.4 0.10		0 0.00	46 0.77		0.4 0.01			0.0				15	24	0	12		
9/9 1000	1,07	70	11.1	111	90	7.2 8.2	11 0.55	2.4 0.20	3.8 0.17	1.0 0.02	0 0.00	51 0.84	2.6 0.04	2.2 0.06	0.6 0.01	0.6 0.01	0.0	27	PO_4 0.02	75[f] 78[g]	19	37	0	6		
11/3 1100	1,88	63	11.4	97	88	7.1 7.9	0.79[c]		3.7 0.17		0 0.00	51 0.84		1.8 0.05			0.0				19	37	0	1		
7/11 1050	1,3	69	7.4	81	110	7.4 8.0	0.88[c]		7.2 0.31		0 0.00	66 1.08		2.8 0.08			0.0				31	44	0	4		
8/6 0810	1,2	57	10.4	102	94	7.4 8.1	0.68[c]		4.9 0.21		0 0.00	54 0.89		1.6 0.05			0.1				24	34	0	2		
9/10	1,13	52	11.8	102	92	7.2 8.0	8.4 0.44	2.0 0.24	5.0 0.22	1.1 0.03	0 0.00	53 0.87	1.0 0.02	0.5 0.01	1.2 0.02	0.1 0.01	0.0	34	PO_4 0.25 As 0.01 ABS 0.00	81[f] 78[g]	14	24	0	0		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

MILL CREEK NEAR MOUTH (STA. 88)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										USGS
10/1 0910	4 (est.)	65	8.4	88	229	7.3 7.9	1.41[c]		18 0.78		0 0.00	72 1.18		24 0.68			0.3				36	70	11	1	Median 23.	
11/1 1100	133 (est.)	6[illegible]	10.1	101	179	7.2 7.[illegible]	1.00		14 0.61		0 0.00	51 0.84		14 0.39			0.3				36	54	12	5	Maximum 2,400.	
12/1 1110	209 (est.)	48	11.8	102	151	7.2 7.[illegible]	0.[illegible][c]		12 0.52		0 0.00	47 0.77		12 0.34			0.3				38	42	3	3	Minimum 2.3	
19[illegible]																										
1/4 1310	75	47	12.0	102	156	7.4 7.6	0.89[c]		12 0.52		0 0.00	49 0.80		14 0.39			0.4				37	44	4	1		
2/4 1340	923	51	11.4	102	85	7.1 7.5	0.51[c]		5.3 0.23		0 0.00	26 0.43		4.2 0.12			0.4				31	26	5	55		
3/1 1335	275	54	11.2	104	148	7.4 7.8	0.80[c]		10 0.44		0 0.00	47 0.77		12 0.34			0.2				34	43	4	2		
4/[illegible] 1400	435	53	10.9	101	138	7.4 8.1	0.84[c]		9.6 0.42		0 0.00	52 0.85		9.5 0.27			0.2				33	42	0	6		
5/3 1210	--	56	10.6	102	99	7.2 7.7	7.2 0.36	2.7 0.22	7.0 0.30	1.4 0.04	0 0.00	33 0.54	10 0.21	6.0 0.17	0.7 0.01	0.6 0.01	0.1	27	PO_4 0.[illegible]	78[f] 79[g]	33	29	2	9		
6/[illegible] 1125	350	64	9.6	101	123	7.2 7.[illegible]	0.77[c]		8.3 0.36		0 0.00	35 0.57		7.2 0.20			0.3				32	38	9	8		
7/12 1250	70 (est.)	80	8.1	100	158	7.2 7.7	0.77[c]		12 0.52		0 0.00	50 0.82		12 0.34			0.3				37	45	4	1		
8/5 1010	[illegible] (est.)	78	11.7	14[illegible]	1[illegible]	[illegible] [illegible]	1.17		14 0.61		0 0.00	67 1.10		7.8 0.22			0.5				34	58	3	2		
[illegible]/12	DRY																									

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE [illegible]

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

MORELUMNE RIVER BELOW DOUMINGO RIVER (STA. 23b)

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

MOKELUMNE RIVER BELOW COSUMNES RIVER (STA. 23b)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in ppm							Mineral constituents in equivalents per million						Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents								
1962																										
11/13 1245		60			52				4.0					4.3						100	33					
1963																										
1/14 1430		45			43				3.0					3.6						52	30					
3/11 1245		56			94				3.5					2.1						100	16					
6/13 1230		65			41				1.6					2.8						72	17					
7/12 1230		79			87				4.8					5.7						88	24					
8/12 1300		76			171				9.4					8.5						112	24					
9/16 1520		70			79				5.1					5.7						108	28					

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs. TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS) ; San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

MOKELUMNE RIVER BELOW GEORGIANA SLOUGH (STA. 23c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in ppm / equivalents per million											Other constituents	Total dissolved solids[g] in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	% Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonates (CO_3)	Bicarbonates (HCO_3)	Sulfots (SO_4)	Chlorids (Cl)	Nitrate (NO_3)	Fluorids (F)	Boron (B)	Silica (SiO_2)				Total ppm	N.C. ppm			
1962																									
11/13 1320		60			152				10					9.9						124	29				USBR
1963																									
1/14 1130		46			181				14					11						136	34				
3/11 1100		54			211				15					13						152	31				
6/13 1055		68			189				12					13						148	28				
7/12 1300		74			174				11					9.2						132	27				
8/12 1330		74			180				9.7					11						132	23				
9/16 1245		68			208				15					13						140	31				

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR), United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc (TTL); or California Department of Water Resources (DWR), as indicated.

TABLE D-4

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

MOKELUMNE RIVER NEAR LANCHA PLANA (STA. 23d)

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

MOKELUMNE RIVER NEAR LANCHA PLANA (STA. 23a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/2 0945	337	61	9.8	100	31	6.9 / 7.0	0.20[c]		2.4 / 0.10		0 / 0.00	14 / 0.23		3.1 / 0.09			0.0			25[e]	33	10	0	15	Median 5.	USGS
11/13 1020	318	58	10.0	99	31	7.0 / 6.9	0.22[c]		2.0 / 0.09		0 / 0.00	15 / 0.25		2.2 / 0.06			0.0			25[e]	29	11	0	3	Maximum 2400.	
12/6 0945	311	53	10.3	96	32	6.9 / 7.1	0.22[c]		2.0 / 0.09		0 / 0.00	14 / 0.23		2.8 / 0.08			0.1			25[e]	29	11	0	4	Minimum 0.23	
1963																										
1/8 1100	635	50	11.1	99	35	6.9 / 7.0	0.24[c]		1.9 / 0.0		0 / 0.00	15 / 0.25		2.2 / 0.06			0.0			28[e]	25	12	0	3		
2/4 0950	4250	51	11.9	108	31	7.1 / 6.7	0.20[c]		3.9 / 0.17		0 / 0.00	10 / 0.16		2.2 / 0.06			0.1			25[e]	46	10	2	45		
3/11 0930	834	49	11.6	102	39	7.1 / 7.2	0.27[c]		2.0 / 0.09		0 / 0.00	17 / 0.28		2.4 / 0.07			0.0			31[e]	25	14	0	10		
4/8 0945	495	54	11.3	106	70	6.9 / 7.1	0.57[c]		3.8 / 0.17		0 / 0.00	20 / 0.33		3.2 / 0.09			0.0			55[e]	23	28	12	55		
5/6 0845	1580	58	11.9	117	45	7.2 / 7.4	5.6 / 0.28	0.6 / 0.05	2.2 / 0.10	0.7 / 0.02	0 / 0.00	21 / 0.34	1.0 / 0.02	2.9 / 0.08	0.2 / 0.00	0.1 / 0.01	0.0	11	PO_4 0.05	34[f] 35[g]	22	16	0	6		
6/4 0735	2130	56	11.1	107	33	7.0 / 7.4	0.25[c]		2.1 / 0.09		0 / 0.00	15 / 0.25		2.0 / 0.06			0.0			26[e]	26	13	1	4		
7/10 0800	511	61	10.5	107	30	6.8 / 7.4	0.19[c]		1.8 / 0.08		0 / 0.00	14 / 0.23		1.4 / 0.04			0.0			24[e]	30	10	0	3		
9/11 0830	351	59	9.8	98	32	6.8 / 7.2	3.8 / 0.19	0.5 / 0.04	2.4 / 0.10	0.7 / 0.02	0 / 0.00	14 / 0.23	3.0 / 0.06	2.8 / 0.08	0.0 / 0.00	0.0 / 0.00	0.0	9.9	AS 0.00 ABS 0.0 PO_4 0.00	30[f] 28[g]	29	12	1	3		

a Field pH.

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

MOKELUMNE RIVER AT WOODBRIDGE (STA. 23)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/8 0805	114	63	9.4	97	98	7.1 / 7.2	0.28		2.4 / 0.10		0 / 0.00	18 / 0.30		2.4 / 0.07			0.0			28[c]	26	14	0	5	Median 23.	USGS
11/14 0940	241	57	9.9	95	35	7.1 / 7.0	0.26		2.1 / 0.09		0 / 0.00	16 / 0.26		1.5 / 0.04			0.0			26	26	13	0	8	Maximum 2400.	
12/4 0920	232	53	10.5	96	35	7.1 / 7.1	0.24		2.5 / 0.11		0 / 0.00	16 / 0.26		3.0 / 0.08			0.0			26	31	12	0	20	Minimum 2.3	
1963																										
1/7 1005	567	49	11.5	100	36	7.0 / 7.1	0.27		1.8 / 0.08		0 / 0.00	15 / 0.25		1.5 / 0.04			0.0			27	23	14	2	8		
2/5 1450	4820	50	11.0	97	32	6.7 / 7.0	0.20		2.8 / 0.12		0 / 0.00	11 / 0.18		3.8 / 0.11			0.1			24	38	10	1	50		
3/13 0900	762	49	11.4	99	40	7.1 / 7.2	0.28		2.3 / 0.10		0 / 0.00	17 / 0.28		2.5 / 0.07			0.0			29	26	14	0	20		
4/8 1515	600	56	10.3	98	79	7.1 / 7.0	0.64		3.4 / 0.15		0 / 0.00	24 / 0.41		3.0 / 0.08			0.1			58	19	32	12	160		
5/7 0745	1460	55	10.8	102	46	7.1 / 7.3	5.0 / 0.25	1.1 / 0.09	2.7 / 0.12	0.6 / 0.02	0 / 0.00	21 / 0.34	4.8 / 0.10	1.1 / 0.03	0.9 / 0.01	0.1 / 0.01	0.0	12	AS 0.00 ABS 0.0 PO_4 0.05	38 / 40	25	17	0	10		
6/4 1240	2170	62	10.0	102	35	7.2 / 7.3	0.26		2.2 / 0.10		0 / 0.00	16 / 0.26		2.0 / 0.06			0.2			26	28	13	0	30		
7/10 1045	76	71	8.7	99	35	6.9 / 7.5	0.23		2.1 / 0.09		0 / 0.00	16 / 0.26		1.8 / 0.05			0.0			26	28	12	0	10		
9/11 1330	41	72	8.4	96	37	7.1 / 7.2	4.0 / 0.20	0.7 / 0.06	1.9 / 0.08	0.7 / 0.02	0 / 0.00	17 / 0.28	0.0 / 0.00	1.8 / 0.05	0.4 / 0.01	0.1 / 0.01	0.0	8.9	AS 0.01 ABS 0.0 PO_4 0.05	27 / 29	22	3	0	3		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc (TTL), or California Department of Water Resources (DWR), as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO.5)

OLD RIVER AT CLIFTON COURT FERRY (STA. 104)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat																						
1962	Tidal																									
10/4 1120		69	7.9	88	387	7.6	1.82[c]		47 / 2.04		0 / 0.00	95 / 1.56		58 / 1.64			0.1			220[e]	53	91	13	15	Median 50.	USGS
11/13 1425		62	8.4	86	768	7.5 / 7.6	3.40[c]		89 / 3.87		0 / 0.00	139 / 2.28		129 / 3.64			0.2			437[e]	53	170	56	15	Maximum 7000.	
12/11 1040		51	7.8	70	464	7.3 / 7.5	2.01[c]		49 / 2.13		0 / 0.00	80 / 1.31		72 / 2.03			0.2			264[e]	51	100	34	9	Minimum 6.2	
1963																										
1/7 1305		48	9.3	80	611	7.3 / 7.6	2.68[c]		69 / 3.00		0 / 0.00	104 / 1.70		128 / 3.61			0.3			348[e]	53	134	49	9		
2/6 1445		55	8.6	81	189	7.1 / 7.1	0.90[c]		19 / 0.83		0 / 0.00	43 / 0.70		23 / 0.65			0.2			108[e]	48	45	10	90		
3/13 1115		57	8.8	85	614	7.3 / 7.6	2.76[c]		68 / 2.96		0 / 0.00	87 / 1.43		90 / 2.54			0.3			349[e]	52	138	67	30		
4/10 0945		58	8.6	84	299	7.3 / 7.5	1.52[c]		30 / 1.30		0 / 0.00	70 / 1.15		38 / 1.07			0.1			170[e]	46	76	19	30		
5/7 1330		65	9.3	99	249	7.4 / 7.5	15 / 0.75	6.9 / 0.57	23 / 1.00	1.5 / 0.04	0 / 0.00	67 / 1.10	23 / 0.48	30 / 0.85	0.8 / 0.01	0.0 / 0.00	0.1	14	PO_4 0.20	147[f] 150[g]	42	66	11	20		
6/5 0945		65	8.6	91	140	7.1 / 7.4	0.77[c]		12 / 0.52		0 / 0.00	39 / 0.64		16 / 0.45			0.0			80 [e]	40	38	6	20		
7/9 0900		73	7.3	84	230	7.3 / 7.6	1.24[c]		19 / 0.83		0 / 0.00	61 / 1.00		27 / 0.76			0.1			131[e]	40	62	12	25		
8/7 0930		75	7.1	84	228	7.3 / 8.1	1.41[c]		19 / 0.83		0 / 0.00	81 / 1.33		22 / 0.62			0.1			130[e]	37	70	4	200		
9/10 1030		75	8.4	99	749	7.7 / 7.8	41 / 2.05	10 / 1.51	81 / 3.52	3.6 / 0.09	0 / 0.00	150 / 2.46	54 / 1.12	126 / 3.55	0.9 / 0.01	0.1 / 0.01	0.1	20	AS 0.01 ABS 0.0 PO_4 0.35	419[f] 435[g]	49	178	55	30		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

OLD RIVER AT HOLLAND TRACT (STA. 108a)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Total dissolved solids in ppm[g]	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents							
							equivalents per million															Total ppm	N.C. ppm			
1962																									
10/16 1325		63			276				28					36						168	44				USBR
11/14 1050		58			331				31					45						228	41				
12/17 1420		54			450									67						276					
1963																									
1/15 1315		44			589				57					87						376	42				
2/11 1400		55			410				41					56						272	43				
3/11 1210		59			421				40					58						268	41				
4/8 1120		58			439				46					62						292	46				
5/13 1445		62			288				28					39						192	42				
6/11 1145		70			163				13					18						144	35				
7/9 1015		74			189				14					18						148	32				
8/12 1300		75			257				23					31						196	39				
9/19 1375					323				26					35						208	35				

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

OLD RIVER AT MANOEVILLE ISLAND (STA. 112)

Date and time sampled PST	Discharge in cfs	Temp. in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million equivalents per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents				Total ppm	N.C. ppm		
1962	Tidal																								
10/2 1410		71	8.2	93	302	7.5 7.6	1.64 c		33 1.44		0 0.00	96 1.57		37 1.04			0.0			175 e	47	82	3	30	Median 50.	USGS
11/13 1415		61	9.3	94	317	7.5 7.4	1.77 c		29 1.26		0 0.00	92 1.51		38 1.07			0.1			184 e	42	88	13	15	Maximum >7000.	
12/5 1140		53	9.5	87	350	7.3 7.7	1.90 c		34 1.48		0 0.00	94 1.54		45 1.27			0.1			203 e	44	95	18	8	Minimum 0.62	
1963																									
1/7 1345		47	9.2	78	474	7.1 7.3	2.48 c		43 1.87		0 0.00	85 1.39		67 1.89			0.1			275 e	43	124	54	10		
2/5 1030		52	9.6	87	624	7.2 7.5	3.30 d		58 2.52		0 0.00	95 1.56		88 2.48			0.2			362 e	43	165	87	20		
3/12 1230		57	9.5	92	367	7.3 7.8	139 c		35 1.52		0 0.00	74 1.21		46 1.30			0.1			213 e	45	95	34	40		
4/9 1000		58	9.1	89	466	7.3 7.4	2.30 c		46 2.00		0 0.00	84 1.38		64 1.81			0.1			270 e	47	115	46	20		
5/7 1000		65	7.6	81	237	7.3 7.3	15 0.75	6.8 0.56	20 0.87	1.9 0.05	0 0.00	61 1.00	25 0.52	27 0.76	1.6 0.03	0.1 0.01	0.0	14	AS 0.00 ABS 0.0 PO_4 0.20		141 f 150 g	39	65	15	55		
6/4 1035		71	7.6	86	198	7.3 7.5	1.09 c		17 0.74		0 0.00	48 0.79		23 0.65			0.0			115 e	40	54	15	25		
7/10 1255		74	8.3	97	181	8.1	1.20 c		14 0.61		0 0.00	64 1.05		16 0.45			0.2			105 e	34	60	8	45		
8/5 1145		74	8.0	93	221	7.7 7.4	1.48 c		18 0.78		0 0.00	78 1.28		21 0.59			0.1			128 e	35	74	1	260		
9/10 1315		77	8.4	101	267	7.8 7.4	15 0.75	8.8 0.72	26 1.13	1.7 0.04	0 0.00	85 1.39	16 0.33	30 0.85	3.2 0.05	0.3 0.02	0.1	15	AS 0.01 ABS 0.0 PO_4 0.00		158 f 160 g	43	73	3	25		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH), City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

OLD RIVER AT ORWOOD BRIDGE (STA. 108)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
1962	Tidal																									
10/4 0930		69	7.5	83	367	7.3 / 7.5	1.81 c		42 / 1.83		0 / 0.00	96 / 1.57		53 / 1.50			0.0			206 e	50	91	12	25	Median 130.	USGS
11/13 1205		60	8.2	82	625	7.4 / 7.7	2.88 c		68 / 2.96		0 / 0.00	120 / 1.97		98 / 2.76			0.1			351 e	51	144	46	15	Maximum >7000.	
12/10 1150		51	7.9	70	556	7.3 / 7.6	2.42 c		58 / 2.52		0 / 0.00	96 / 1.57		86 / 2.43			0.2			312 e	51	121	42	15	Minimum 2.3	
1963																										
1/8 1045		46	8.9	74	687	7.1 / 7.4	3.20 c		73 / 3.18		0 / 0.00	98 / 1.61		106 / 2.99			0.4			386 e	50	160	80	15		
2/6 1155		58	8.1	79	359	7.1 / 7.1	1.73 c		36 / 1.57		0 / 0.00	34 / 0.56		45 / 1.27			0.2			202 e	48	87	59	35		
3/13 1345		59	8.5	84	512	7.3 / 7.5	2.36 c		56 / 2.44		0 / 0.00	82 / 1.34		71 / 2.00			0.2			288 e	51	118	51	20		
4/10 1145		58	8.6	84	408	7.3 / 7.5	1.92 c		39 / 1.70		0 / 0.00	78 / 1.28		55 / 1.55			0.2			229 e	47	96	32	20		
5/13 1245		62	9.2	94	283	7.2 / 7.8	16 / 0.80	7.8 / 0.64	28 / 0.57	1.5 / 0.04	0 / 0.00	68 / 1.11	29 / 0.60	36 / 1.02	2.5 / 0.04	0.1 / 0.01	0.2	16	PO_4 0.20	170 f 171 g	45	72	16	30		
6/5 0940		67	8.1	88	150	7.3 / 7.4	0.81 c		13 / 0.57		0 / 0.00	40 / 0.66		17 / 0.48			0.0			84 e	41	40	7	15		
7/10 1045		72	7.3	84	198	7.9	1.36 c		16 / 0.70		0 / 0.00	61 / 1.00		21 / 0.59			0.1			111 e	34	68	18	40		
8/6 1030		75	7.3	85	223	7.3 / 8.0	1.45 c		18 / 0.78		0 / 0.00	78 / 1.28		21 / 0.59			0.2			125e	35	73	9	190		
9/10 1115		75	6.8	80	274	7.3 / 7.4	20 / 1.00	6.3 / 0.52	26 / 1.13	1.8 / 0.05	0 / 0.00	87 / 1.43	19 / 0.40	30 / 0.85	2.4 / 0.04	0.1 / 0.01	0.0	16	AS 0.02 ABS 0.0 PO_4 0.15	165 f 163 g	42	76	5	20		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc (TTL), or California Department of Water Resources (DWR), as indicated

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

OLD RIVER NEAR TRACY (STA. 103)

Date and time sample PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform MPN/ml [h]	Analyzed by [i]
1962	Tidal																									
10/4 1300		68	10.9	119	960	8.4 / 8.4	4.50 [c]		115 / 5.00		3 / 0.10	178 / 2.92		164 / 4.63			0.2			534 [e]	53	225	68	7	Median 230.	USGS
11/14 1100		59	5.6	55	869	7.4 / 7.5	3.85 [c]		100 / 4.35		0 / 0.00	164 / 2.69		141 / 3.98			0.2			483 [e]	53	192	58	10	Maximum 2400.	
12/11 1140		51	5.1	45	502	7.3 / 7.4	2.31 [c]		55 / 2.39		0 / 0.00	97 / 1.59		81 / 2.29			0.1			279 [e]	51	116	36	20	Minimum 13.	
1963																										
1/7 1130		47	8.4	71	688	7.3 / 7.9	3.12 [c]		75 / 3.26		0 / 0.00	116 / 1.90		114 / 3.22			0.4			383 [e]	51	156	61	10		
2/7 1150		56	8.0	76	210	7.1 / 6.9	0.95 [c]		21 / 0.91		0 / 0.00	48 / 0.79		26 / 0.73			0.1			117 [e]	48	49	10	100		
3/12 1000		56	8.9	85	860	7.3 / 7.7	3.74 [c]		104 / 4.52		0 / 0.00	137 / 2.25		132 / 3.72			0.4			478 [e]	55	187	75	10		
4/9 1200		60	7.2	72	442	7.3 / 7.5	2.17 [c]		46 / 2.00		0 / 0.00	97 / 1.59		57 / 1.61			0.1			246 [e]	48	108	28	15		
5/13 1000		59	8.7	86	183	7.3 / 7.8	12 / 0.60	5.4 / 0.44	16 / 0.70	1.9 / 0.05	0 / 0.00	55 / 0.90	16 / 0.33	19 / 0.54	2.3 / 0.04	0.1 / 0.01	0.1	15	PO_4 0.20	115 [f] / 125 [g]	39	52	7	25		
6/5 0835		64	8.0	84	160	7.1 / 7.5	0.85 [c]		14 / 0.61		0 / 0.00	43 / 0.70		19 / 0.54			0.0			89 [e]	42	43	8	25		
7/9 1045		72	8.2	94	731	7.5 / 8.0	3.45 [c]		75 / 3.26		0 / 0.00	129 / 2.11		119 / 3.36			0.3			406 [e]	49	172	66	20		
8/7 0845		74	7.2	84	1110	8.1 / 8.2	5.33 [c]		121 / 5.26		0 / 0.00	184 / 3.02		208 / 5.87			0.4			617 [e]	50	266	115	210		
9/10 1245		76	9.8	117	1000	8.1 / 7.8	54 / 2.69	25 / 2.03	110 / 4.78	4.8 / 0.12	0 / 0.00	189 / 3.10	76 / 1.58	174 / 4.91	1.9 / 0.03	0.1 / 0.01	0.1	23	AS 0.02 ABS 0.0 PO_4 0.55	562 [f] / 603 [g]	50	236	81	20		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. [illegible])

PAYNE[illegible] CREEK NEAR RED BLUFF (STA. [illegible])

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1960																										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		3 / .10	11[illegible] / 1.[illegible]		18 / [illegible]			[illegible]		Tot. [illegible]		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
11/2[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		1[illegible] / [illegible]		[illegible]	11[illegible] / 1.[illegible]		14 / [illegible]			[illegible]				33	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	11.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		6.1 / [illegible]		[illegible]	64 / 1.05		[illegible] / .08			[illegible]				2[illegible]	[illegible]	[illegible]	[illegible]		
1961																										
1/1[illegible]	[illegible]	[illegible]	1[illegible].1	105	[illegible]	[illegible]	[illegible] / 1.47		17 / [illegible].74		[illegible]	113 / 1.[illegible]		14 / [illegible]			.2				33	74	0	1		
2/2[illegible]	[illegible]	56	[illegible]	104	[illegible]	7.3 / 7.[illegible]	[illegible] / 1.14		[illegible]		[illegible]	86 / 1.41		5.8 / .16			.1				28	[illegible]	[illegible]	.		
3/20	[illegible]	57	11.9	114	192	7.8 / [illegible]	[illegible] / 1.34		14 / 0.61		[illegible]	104 / 1.7[illegible]		11 / .[illegible]1			.1				[illegible]	[illegible]7	[illegible]	1		
4/17	75	[illegible]	11.[illegible]	100	[illegible]8	7.[illegible]	[illegible]		5.0 / [illegible]		0 / 0.00	57 / [illegible]		1.9 / .05			.1				22	3[illegible]	[illegible]	1[illegible]		
5/15	[illegible]	[illegible]	[illegible]	100	145	7.4 / 7.1	[illegible]	[illegible]	11 / [illegible]	1.[illegible]	[illegible] / 0.00	83 / 1.3[illegible]	1.[illegible] / 0.0[illegible]	5.0 / .14	1.[illegible] / .02	[illegible] / 0.[illegible]	0.1	[illegible]	PO_4 [illegible]	1[illegible]1[f] 113[g]	31	[illegible]	[illegible]	2		
[illegible]/5	15	65	1[illegible]	11[illegible]	1[illegible]3	7.[illegible]	[illegible]		1[illegible] / [illegible]7		0 / 0.00	[illegible] / 1.0[illegible]		8.7 / 0.[illegible]5			[illegible]				[illegible]1	64	[illegible]	[illegible]		
7/[illegible]	[illegible]	72	8.6	[illegible]	1[illegible]8	7.1 / [illegible]	[illegible]		15 / 0.65		0 / 0.00	104 / 1.70		12 / 0.34			[illegible]				3[illegible]	6[illegible]	[illegible]	2		
[illegible] 0815	15	65	8.[illegible]	[illegible]	[illegible]	7.[illegible] / [illegible].1	[illegible] / 1.[illegible]		14 / 0.61		[illegible]	[illegible] / 1.0[illegible]		11 / 0.31			[illegible]				32	65	[illegible]	-		
[illegible]/12	15	64	[illegible]	[illegible]	[illegible]25	7.[illegible]	[illegible]	[illegible]	1[illegible]	1.[illegible]	[illegible]	11[illegible] / 1.[illegible]	[illegible] / .06	17 / 0.48	1.[illegible]	[illegible] / 0.01	[illegible]	47	PO_4 [illegible] As [illegible] ABS [illegible]	162[f] 161[g]	35	72	[illegible]	.		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

PIT RIVER NEAR BIEBER (STA. 17e)

Date and time sampled P.S.T.	Discharge in cfs	Temp. in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
[illegible]																										USGS
11/10 1400	8.70	48	7.7	66	[illegible]	[illegible]	7.0 / 0.35		0.4 / 0.02		0 / 0.00	50 / 0.82		2.0 / 0.06			0.1				37	32	0	80		
11/17 1415	4	45	12.2	11	[illegible]	[illegible]	0.1 / 0.01	1.5 / 0.12	5 / 0.22		0 / 0.00	1.7 / 2.25		7.5 / 0.21			1.2				38	78	0	9		
[illegible]/17 1200	[illegible]	45	11.2	[illegible]	144	[illegible]	1.0 / 0.05	1.02	1.7 / 0.07		0 / 0.00	84 / 1.38		1.8 / 0.05			0.1				34	51		45		
[illegible]																										
2/12 [illegible]	4	34	12.8	92	[illegible]	[illegible]	7.0 / 0.35	1.5 / 0.12	1.1 / 0.05		0 / 0.00	134 / 2.20		7.0 / 0.20			0.0				37	77	0	15		
3/11 1345	75	44	10.3	84	[illegible]	[illegible]	7.0 / 0.35	1.5 / 0.12	6.0 / 0.27		0 / 0.00	128 / 2.10		6.5 / 0.18			0.0				37	75	0	40		
4/11 1230	[illegible]	46	11.7	93	[illegible]	[illegible]	7.0 / 0.35	1.5 / 0.12	21 / 0.91		0 / 0.00	130 / 2.13		7.0 / 0.20			0.0				37	79		10		
5/1 1145	[illegible]	45	10.1	87	[illegible]	[illegible]	7.0 / 0.35	1.2 / 0.10	12 / 0.52		0 / 0.00	92 / 1.51		2.0 / 0.06			0.0				32	56	0	35		
5/16 1050	1,750	53	7.4	100	157	7.0 / 7.0	14 / 0.70	5.6 / 0.46	11 / 0.48	2.0 / 0.06	0 / 0.00	82 / 1.51	5.4 / 0.12	2.5 / 0.07	1.1 / 0.02	0.0 / 0.00	0.0	27	PO_4 0.2	114[f] 134[g]	28	58	0	40		
6/15 1330	67	64	7.4	102	[illegible]	7.1 / 7.1	31 / 1.54		14 / 0.61		1 / 0.03	120 / 1.97		2.4 / 0.07			0.1		Tot. alk. 102		28	77	0	40		
7/11 1400	17	73	7.4	112	329	8.2 / 7.3	41 / 2.14		42 / 1.78		0 / 0.00	197 / 3.23		4.6 / 0.13			0.1				38	100	0	4		
8/8 1500	4 (est.)	71	11.2	147	262	8.2 / 8.2	36 / 1.80		22 / 0.96		4 / 0.13	150 / 2.46		4.8 / 0.11			0.0		Tot. alk. 158		34	93	0	3		
9/12 [illegible]	18 (est.)	64	12.5	151	241	8.4 / 8.3	18 / 3.90	9.1 / 0.75	19 / 0.83	4.2 / 0.08	8 / 0.27	126 / 2.10	7.1 / 0.15	4.8 / 0.14	0.4 / 0.01	0.2 / 0.01	0.0	21	Tot. alk. 114 PO_4 0.10 As 0.01 ABS 0.00	172[f] 162[g]	32	82	0	1		

o Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

* Sampled at Bieber Bridge.

† Sampled at Pittville Bridge.

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TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (No. [illegible])

PIT RIVER NEAR CANBY (STA. 17a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
196[illegible]																										USGS
10/16 1620	3,090	48	8.4	72	132	7.2 / 7.4	0.7[illegible][c]		13 / 0.57		0 / 0.00	63 / 1.03		4.0 / 0.11			[illegible]				42	[illegible]9	[illegible]	[illegible]	Median .2	
11/19 161[illegible]	14	45	11.5	95	250	7.3 / 8.1	1.53[c]		23 / 1.00		[illegible] / 0.00	136 / 2.23		7.5 / [illegible]			0.0				40	76	[illegible]	15	Maximum [illegible]	
12/17 133[illegible]	348	45	10.0	83	201	7.5 / 7.9	1.24[c]		18 / 0.78		[illegible] / 0.00	106 / 1.74		5.8 / 0.16			0.1				39	[illegible]	[illegible]	[illegible]	Minimum [illegible]	
1963																										
1/14 1145	56	33	12.0	83	280	7.5 / [illegible].2	1.72[c]		28 / 1.22		[illegible] / 0.00	144 / 2.36		9.[illegible] / 0.28			[illegible]				4[illegible]	86	[illegible]	[illegible]		
2/18 133[illegible]	275	44	10.4	85	30[illegible]	7.5 / 8.0	1.80[c]		30 / 1.3[illegible]		0 / 0.00	151 / 2.47		12 / 0.34			0.1				42	[illegible]	[illegible]	8[illegible]		
3/18 1400	155	44	12.3	100	307	[illegible].2 / 8.2	1.80[c]		30 / 1.30		0 / 0.00	143 / 2.34		13 / 0.37			[illegible]				42	9[illegible]	[illegible]	[illegible]		
4/15 1240	800	45	10.1	97	165	7.5 / 7.[illegible]	1.14[c]		12 / 0.52		0 / 0.00	89 / 1.46		3.[illegible] / 0.08			0.0				[illegible]	57		1[illegible]		
5/13 1215	1,350	52	9.1	95	146	7.4 / 7.[illegible]	1[illegible] / 0.65	5.6 / 0.46	[illegible] / [illegible]	[illegible] / [illegible]	[illegible] / 0.00	[illegible] / 1.34	6.[illegible] / [illegible].12	2.[illegible] / [illegible]	3.5 / 0.06	0.1 / 0.01	0.0	[illegible]	PO_4 [illegible] As [illegible] ABS [illegible]	[illegible][e] 113[g]	27	56	[illegible]	1[illegible]		
6/5 1045	350	59	8.2	94	207	7.6 / [illegible].1	1.53[c]		16 / 0.70		0 / 0.00	126 / 2.07		2.0 / 0.06			0.1				31	76	[illegible]	5[illegible]		
7/10 0950	62	67	7.8	98	313	8.1 / 7.[illegible]	[illegible][c]		30 / 1.30		0 / 0.00	179 / 2.93		8.[illegible] / 0.24			0.[illegible]				3[illegible]	103	[illegible]	15		
8/8 1130	30	72	7.4	98	267	7.[illegible] / 7.7	1.78[c]		22 / 0.96		0 / 0.00	153 / 2.51		6.0 / 0.17			[illegible]				[illegible]	[illegible]		25		
9/12 1200	75	61	8.[illegible]	94	322	7.8 / 7.6	24 / 1.20	9.7 / 0.80	32 / 1.39	7.5 / 0.19	[illegible] / 0.00	1[illegible] / 3.11	9.0 / [illegible].19	[illegible] / [illegible]	1.3 / 0.0[illegible]	[illegible] / .02	[illegible]	34	PO_4 [illegible] As [illegible] ABS [illegible]	21[illegible][f] 22[illegible][f]	39	[illegible]	[illegible]	2[illegible]		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-D-H 6-61 200 SPO

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

PIT RIVER NEAR MONTGOMERY CREEK (STA. 17)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
							equivalents per million																			
1962																										USGS
10/16 0845	17,200	49	11.5	100	98	7.4 / 7.2	0.64[c]		8.6 / 0.37		0 / 0.00	52 / 0.85		3.2 / 0.09			0.0				37	32	0	80	Median 6.2	
11/19 1035	3,950	48	11.3	97	152	7.3 / 7.9	1.10[c]		10 / 0.44		0 / 0.00	90 / 1.48		4.6 / 0.13			0.0				29	55	0	2	Maximum 7,000.+	
12/17 0840	8,970	49	11.1	97	118	7.4 / 8.0	0.89[c]		7.0 / 0.30		0 / 0.00	68 / 1.11		2.3 / 0.06			0.0				25	44	0	25	Minimum .23	
1963																										
1/11 1400	--	42	13.0	103	155	7.6 / 8.2	1.10[c]		11 / 0.48		0 / 0.00	84 / 1.38		5.4 / 0.15			0.0				30	55	0	9		
2/18 0830	4,400	48	11.5	99	142	7.3 / 7.9	1.04[c]		9.3 / 0.40		0 / 0.00	80 / 1.31		3.5 / 0.10			0.0				28	52	0	15		
3/18 0930	2,500	47	12.1	103	151	7.6 / 8.7	1.14[c]		8.6 / 0.37		0 / 0.00	86 / 1.41		4.6 / 0.13			0.0				25	57	0	15		
4/15 0830	13,700	47	11.6	102	113	7.5 / 7.9	0.90[c]		5.6 / 0.24		0 / 0.00	65 / 1.07		1.2 / 0.03			0.0				21	45	0	65		
5/13 0730	7,100	53	10.6	101	129	7.5 / 8.1	14 / 0.70	3.6 / 0.30	7.6 / 0.33	1.5 / 0.04	0 / 0.00	75 / 1.23	3.0 / 0.06	2.6 / 0.07	0.5 / 0.01	0.0 / 0.00	0.0	27	PO_4 0.15	97[f] 99[g]	24	50	0	15		
6/5 1530	4,690	64	9.3	101	145	8.0 / 8.2	1.10[c]		8.0 / 0.35		c / 0.00	88 / 1.44		3.8 / 0.11			0.0				24	55	0	2		
7/10 1430	4,300	66	9.6	106	154	8.3 / 8.1	1.11[c]		11 / 0.48		0 / 0.00	91 / 1.49		5.0 / 0.14			0.0				30	55	0	1		
8/7 1450	3,180	68	9.1	103	150	8.0 / 8.1	1.14[c]		10 / 0.44		0 / 0.00	87 / 1.43		3.0 / 0.08			0.1				28	57	0	1		
9/12 1530	2,760	64	9.9	107	152	8.1 / 8.0	11 / 0.55	6.4 / 0.53	11 / 0.48	1.8 / 0.05	0 / 0.00	88 / 1.44	3.0 / 0.06	4.5 / 0.13	0.5 / 0.01	0.1 / 0.01	0.0	24	PO_4 0.15 As 0.01 ABS 0.00	115[f] 103[g]	30	54	0	1		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

[illegible]NTRAL VALLEY REGION (NO[illegible])

PIT RIVER, SOUTH FORK NEAR LIKELY (STA. [illegible])

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO₃)	Bicarbonate (HCO₃)	Sulfate (SO₄)	Chloride (Cl)	Nitrate (NO₃)	Fluoride (F)	Boron (B)	Silica (SiO₂)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as CaCO₃ Total ppm	Hardness as CaCO₃ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
Mineral constituents in parts per million / equivalents per million																										
[illegible]																										[illegible]
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]			[illegible]				[illegible]	[illegible]		[illegible]	Median [illegible]	
11[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]			[illegible]				[illegible]	[illegible]			Max [illegible]	
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		5.1 / [illegible]		[illegible]	[illegible]		[illegible]			[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	Minimum [illegible]	
[illegible]																										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10[illegible]	[illegible]	[illegible]		2.3 / 0.23		[illegible]	6[illegible] / 1.[illegible]		1.[illegible] / 0.[illegible]			[illegible]				[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	63 / 1.[illegible]		[illegible]			[illegible]				[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible] / 1.11		1.[illegible] / [illegible]			[illegible]				[illegible]	[illegible]	[illegible]	1		
14[illegible]	[illegible]	[illegible]	[illegible]	1[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	6[illegible] / [illegible]		[illegible] / 0.01			[illegible]				[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	52	[illegible]	[illegible]	111	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] / 0.[illegible]	[illegible]	6[illegible] / 1.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]			[illegible]				[illegible]	[illegible]	[illegible]	[illegible]		
7/1[illegible]	[illegible]	7[illegible]	[illegible]	10[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]			[illegible]				[illegible]	[illegible]	[illegible]	4		
[illegible]	[illegible]	[illegible]	[illegible]	10[illegible]	13[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	77 / 1.[illegible]		1.[illegible] / 0.03			[illegible]				[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	111	146	[illegible] / 7.[illegible]	13 / [illegible]	[illegible] / 0.[illegible]	8.6 / 0.37	[illegible] / 0.11	[illegible] / 0.[illegible]	81 / 1.33	[illegible] / 0.08	[illegible] / [illegible]	[illegible] / [illegible]	[illegible] / 0.01	[illegible]	[illegible]	PO₄ [illegible] A. [illegible] ABS [illegible]	11[illegible] / 11[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

PUTAH CREEK NEAR WINTERS (STA. 81)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/ b/	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N C ppm	Turbidity in ppm	Coliform h/ MPN/ml	Analyzed by i/
1962																										
10/6 0925	108	52	10.6	97	320	7.5 / 8.3	3.14 c/		8.7 / 0.38		2 / 0.07	188 / 3.08		6.6 / 0.19			0.0			193 e/	11	157	0	7	Median 23.	USGS
11/8 0845	11	52	9.3	85	337	7.8 / 8.3	3.24 c/		10 / 0.44		8 / 0.27	182 / 2.98		7.5 / 0.21			0.2			203 e/	12	162	0	2	Maximum 2400.	
12/5 0910	14	50	10.4	93	349	7.8 / 8.2	3.24 c/		12 / 0.52		0 / 0.00	198 / 3.25		13 / 0.37			0.2			210 e/	14	162	0	1	Minimum 0.06	
1963																										
1/15 0925	36	46	11.3	96	330	7.9 / 8.4	3.18 c/		11 / 0.48		4 / 0.13	186 / 3.05		8.0 / 0.23			0.2			199 e/	13	159	0	1		
2/4 0945	26	56	9.7	93	582	7.8 / 8.2	4.35 c/		42 / 1.83		0 / 0.00	235 / 3.85		40 / 1.13			0.7			350 e/	30	218	25	20		
3/14 0915	67	49	11.0	97	335	7.9 / 8.0	3.11 c/		11 / 0.48		0 / 0.00	187 / 3.06		9.0 / 0.25			0.1			202 e/	13	155	2	10		
4/11 0915	29	52	11.0	101	482	7.9 / 8.1	3.92 c/		31 / 1.35		0 / 0.00	214 / 3.51		19 / 0.54			0.5			290 e/	26	196	21	19		
5/14 0815	536	62	9.7	100	352	8.1 / 7.9	24 / 1.20	24 / 1.96	14 / 0.61	1.9 / 0.05	0 / 0.00	188 / 3.08	24 / 0.50	11 / 0.31	0.2 / 0.00	0.2 / 0.01	0.1	11	AS 0.00 ABS 0.0 PO_4 0.00	203 f/ 200 g/	16	158	4	4		
6/4 0815	332	63	9.9	103	321	8.1 / 8.3	3.00 c/		10 / 0.44		2 / 0.07	179 / 2.93		7.0 / 0.20			0.2			193 e/	13	150	0	6		
7/8 0810	486	55	11.6	110	309	8.2	2.94 c/		9.2 / 0.40		0 / 0.00	177 / 2.90		6.0 / 0.17			0.1			186 e/	12	147	2	4		
8/8 0800	232	55	10.9	104	302	8.0 / 8.5	2.96 c/		7.6 / 0.33		0 / 0.13	164 / 2.69		5.1 / 0.14			0.2			182 e/	10	148	6	2		
9/11 1350	272	59	11.9	119	306	8.4 / 8.4	18 / 0.90	24 / 1.96	7.8 / 0.34	1.5 / 0.04	2 / 0.07	164 / 2.69	13 / 0.27	5.2 / 0.15	2.8 / 0.05	0.2 / 0.01	0.2	13	AS 0.00 ABS 0.0 PO_4 0.00	169 f/ 171 g/	10	143	5	2		

a/ Field pH

b/ Laboratory pH.

c/ Sum of calcium and magnesium in epm.

d/ Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e/ Derived from conductivity vs TDS curves.

f/ Determined by addition of analyzed constituents.

g/ Gravimetric determination.

h/ Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i/ Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

RED BANK CREEK NEAR RED BLUFF (STA. 884)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Mineral constituents in equivalents per million										Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)						
[illegible]																																	USGS
[illegible]	POND D																																
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		0.91		0.27	242 / 3.97		28 / 0.79			0.1		Tot. alk. 238											15	261	49	65		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.[illegible]	[illegible]		19 / 0.96		1 / 0.03	261 / 4.28		14 / 0.39			0.1		Tot. alk. 274											13	262	37	100		
[illegible]																																		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		20 / 0.87		0 / 0.00	286 / 4.69		26 / 0.73			0.0													13	281	46	1		
[illegible]	[illegible]	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		14 / 0.61		3 / 0.07	268 / 4.39		4.4 / 0.14			0.0		Tot. alk. 264											12	232	17	35		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		16 / 0.70		6 / 0.27	218 / 4.25		12 / 0.34			0.1		Tot. alk. 234											12	261	31	1		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		23 / 1.01		1 / 0.03	230 / 3.77		3.7 / 0.10			0.0		Tot. alk. 230											11	226	14	140		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3 / 2.43	17 / 0.74	1.[illegible] / 0.0[illegible]	0 / 0.17	249 / 4.08	51 / 1.04	6.2 / 0.17	0.8 / 0.01	0.2 / 0.01	0.0	18	Tot. alk. 204 PO4 0.00	296[f] 288[g]		14	234	22	4		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		16 / 0.70		0 / 0.00	272 / 4.46		2.5 / 0.07			0.1		Tot. alk. 264											13	253	20	0		
[illegible] 13	(dest.)																																	
[illegible]	POND NO FLOW																																	
[illegible]	DRY																																	
[illegible] 11	DRY																																	

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (NO. 5)

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

ROCK SLOUGH NEAR KNIGHTSEN (STA. 109)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million / equivalents per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents				Total ppm	N.C. ppm		
1962	Tidal																								
10/4 0825		66	6.7	72	375	7.3 / 7.8	1.76[c]		44 / 1.91		0 / 0.00	98 / 1.61		55 / 1.55			0.0			216[e]	52	88	8	15	Median 62.	USGS
11/13 1100		61	7.3	74	525	7.3 / 8.0	2.54[c]		57 / 2.48		0 / 0.00	115 / 1.88		76 / 2.14			0.2			302[e]	49	127	33	10	Maximum >7000.	
12/10 1050		51	7.5	67	743	7.3 / 7.7	3.34[c]		80 / 3.48		0 / 0.00	140 / 2.29		116 / 3.27			0.4			427[e]	51	167	52	9	Minimum 2.3	
1963																									
1/8 0945		44	8.6	70	721	7.1 / 7.5	3.32[c]		79 / 3.44		0 / 0.00	112 / 1.84		109 / 3.07			0.5			415[e]	51	166	74	10		
2/6 1055		54	7.3	68	855	7.2 / 7.5	4.11[c]		85 / 3.70		0 / 0.00	110 / 1.80		126 / 3.55			0.5			492[e]	47	206	116	25		
3/13 1445		58	8.7	85	620	7.3 / 7.8	2.76[c]		69 / 3.00		0 / 0.00	98 / 1.61		90 / 2.54			0.4			356[e]	52	138	58	15		
4/10 1230		61	9.2	93	668	7.5 / 8.1	2.97[c]		76 / 3.31		0 / 0.00	108 / 1.77		99 / 2.79			0.5			384[e]	53	149	60	9		
5/13 1345		65	6.4	68	403	7.3 / 7.7	20 / 1.00	11 / 0.92	44 / 1.91	1.6 / 0.04	0 / 0.00	89 / 1.46	43 / 0.90	54 / 1.52	2.6 / 0.04	0.1 / 0.01	0.4	14	PO_4 0.20	235[f] 247[g]	49	96	23	50		
6/5 0835		69	6.1	68	204	7.0 / 7.5	1.06[c]		19 / 0.83		0 / 0.00	53 / 0.87		25 / 0.71			0.1			117[e]	44	53	10	30		
7/10 0955		76	6.8	81	208	8.1	1.31[c]		17 / 0.74		0 / 0.00	66 / 1.08		21 / 0.59			0.1			120[e]	36	65	11	40		
8/6 1200		76	7.0	83	248	7.3 / 8.1	1.47[c]		22 / 0.96		0 / 0.00	82 / 1.34		24 / 0.68			0.1			143[e]	40	73	6	120		
9/10 1020		74	6.9	81	296	7.3 / 7.9	16 / 0.80	9.1 / 0.75	28 / 1.22	1.7 / 0.04	0 / 0.00	89 / 1.46	19 / 0.40	33 / 0.93	1.6 / 0.03	0.2 / 0.01	0.0	19	AS 0.01 ABS 0.0 PO_4 0.15	172[f] 198[g]	43	77	4	20		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0/0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH), City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT BEND (STA. 12c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1/60																										USBR
1/31 1230	6,440	57	11.1	107	115	7.4 / 7.7	0.8		0.7 / 0.29		0 / 0.00	63 / 1.03		4.2 / 0.12			0.0				24	46		1	Maximum 2.	
11/1 1315	7,310	56	10.5	100	121	7.4 / 7.7	0.94		0.5 / 0.26		0 / 0.00	66 / 1.08		3.6 / 0.08			0.2				22	47	0	1	Maximum 7,000+	
12/7 1400	3,430	53	10.4	95	131	7.3 / 7.8	0.98		0.5 / 0.35		0 / 0.00	71 / 1.15		3.6 / 0.10			0.0				26	49	0	1	Minimum 2	
1/63																										
1/4 1055	11,900	49	10.8	94	130	7.4 / 7.6	0.97		0.5 / 0.33		0 / 0.00	67 / 1.10		4.2 / 0.12			0.1				25	48	0	15		
2/4 1420	19,400	51	11.0	98	121	7.1 / 7.7	0.94		0.5 / 0.27		0 / 0.00	62 / 1.02		2.8 / 0.08			0.0				22	47	0	40		
3/1 1140	15,000	48	11.5	99	126	7.3 / 7.7	0.99		0.5 / 0.20		0 / 0.00	68 / 1.11		3.2 / 0.09			0.0				21	49	1	10		
4/5 1120	8,620	55	10.4	98	140	7.4 / 7.1	1.11		0.5 / 0.27		0 / 0.00	70 / 1.15		3.0 / 0.08			0.1				25	56		10		
5/4 1055	11,500	55	10.3	98	128	7.3 / 7.7	1.0 / 0.80	0.1 / 0.02	0.1 / 0.27	1.1 / 0.03	0 / 0.00	67 / 1.10	0.0 / 0.19	2.5 / 0.07	0.2 / 0.00	0.0 / 0.01	0.0	0.2	PO_4 0.00 As 0.04 ABS 0.00	92[f] 101[g]	26	51	0	15		
6/1 1035	7,400	57	10.6	103	117	7.3 / 7.7	0.98		0.9 / 0.26		0 / 0.00	64 / 1.05		4.0 / 0.08			0.0				23	47	2	7		
7/1 1400	10,400	55	10.8	101	112	7.3 / 7.7	0.90		0.5 / 0.24		0 / 0.00	64 / 1.05		2.8 / 0.08			0.0				21	45	0	4		
8/3 1130	10,800	54	10.7	100	110	7.3 / 7.7	0.78		0.7 / 0.29		0 / 0.00	61 / 1.00		2.0 / 0.06			0.1				24	42		4		
9/12 1040	11,500	58	10.1	96	110	7.3 / 7.7	11 / 0.60	4.5 / 0.37	0.1 / 0.04	2.2 / 0.06	4 / 0.13	0 / 0.00	1.5 / 0.03	1.5 / 0.04	0.1	0.0	0.1	0.2	Tot. alk. 70 PO_4 0.00 As 0.00 ABS 0.04	77[f] 82[g]	19	46	5	5		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (No. 5)

SACRAMENTO RIVER AT BEND (Sta. 12c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH [b]	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform [h] MPN/ml	Analyzed by [i]
1962																										USGS
9/1-10					115	7.5	10 / 0.50	4.6 / 0.38	6.7 / 0.29	1.1 / 0.03	0 / 0.00	64 / 1.05	4.6 / 0.10	2.2 / 0.06	1.3 / 0.02	0.3 / 0.02	0.1	24	Cu 0.02 Fe 0.01 Zn 0.00	87[f] 81[g]	24	44	0			
9/11-20					116	7.8	12 / 0.60	3.4 / 0.28	7.0 / 0.30	1.2 / 0.03	0 / 0.00	64 / 1.05	5.0 / 0.10	2.2 / 0.06	0.3 / 0.00	0.2 / 0.01	0.0	25	Cu 0.02 Fe 0.01 Zn 0.10	88[f] 82[g]	25	44	0			
9/21-30					114	7.6	12 / 0.60	3.3 / 0.27	6.3 / 0.27	1.2 / 0.03	0 / 0.00	64 / 1.05	5.0 / 0.10	2.4 / 0.07	1.0 / 0.02	0.2 / 0.01	0.1	23	Cu 0.02 Fe 0.01 Zn 0.08	87[f] 79[g]	23	44	0			
10/1-10					116	7.4	10 / 0.50	4.7 / 0.39	6.3 / 0.27	1.0 / 0.03	0 / 0.00	61 / 1.00	3.6 / 0.07	2.7 / 0.08	1.5 / 0.02	0.1 / 0.01	0.0	27	Cu 0.00 Fe 0.03 Zn 0.12	87[f] 80[g]	23	44	0			
10/11-14					112	7.2	10 / 0.50	4.4 / 0.36	5.8 / 0.25	1.5 / 0.04	0 / 0.00	48 / 0.79	11 / 0.23	3.9 / 0.11	3.1 / 0.05	0.2 / 0.01	0.0	23	Cu 0.00 Fe 0.16 Zn 0.03	87[f]	22	43	4			
10/15-31					119	7.8	11 / 0.55	4.7 / 0.39	6.5 / 0.28	1.1 / 0.03	0 / 0.00	64 / 1.05	6.4 / 0.13	2.7 / 0.08	1.5 / 0.02	0.2 / 0.01	0.0	26	Cu 0.00 Fe 0.02 Zn 0.00	92[f] 90[g]	22	47	0			
11/1-10					127	7.7	11 / 0.55	5.5 / 0.45	7.6 / 0.33	2.0 / 0.05	0 / 0.00	69 / 1.13	6.0 / 0.12	4.2 / 0.12	1.4 / 0.02	0.1 / 0.01	0.1	26	Cu 0.01 Fe 0.06 Zn 0.11	98[f] 102[g]	24	50	0			
11/11-20					123	7.5	11 / 0.55	5.0 / 0.41	7.3 / 0.32	2.5 / 0.06	0 / 0.00	66 / 1.08	6.0 / 0.12	3.4 / 0.10	1.2 / 0.02	0.1 / 0.01	0.1	26	Cu 0.01 Fe 0.08 Zn 0.10	96[f] 98[g]	24	48	0			
11/21-30					128	7.4	10 / 0.50	5.6 / 0.46	7.2 / 0.33	2.3 / 0.06	0 / 0.00	67 / 1.10	6.0 / 0.10	4.8 / 0.14	1.3 / 0.02	0.2 / 0.01	0.1	26	Cu 0.01 Fe 0.10 Zn 0.09	96[f] 104[g]	24	48	0			
12/1-14					128	7.4	13 / 0.65	4.3 / 0.35	7.8 / 0.34	1.5 / 0.04	0 / 0.00	67 / 1.10	6.8 / 0.14	4.5 / 0.13	1.2 / 0.02	0.4 / 0.02	0.1	25	Cu 0.02 Fe 0.00 Zn 0.11	98[f] 98[g]	25	50	0			
12/15-19					111	7.4	11 / 0.55	3.9 / 0.32	6.6 / 0.29	1.5 / 0.04	0 / 0.00	60 / 0.98	5.2 / 0.11	3.6 / 0.10	1.5 / 0.02	0.2 / 0.01	0.1	23	Cu 0.02 Fe 0.04 Zn 0.04	87[f] 87[g]	24	43	0			
12/20-31					128	7.8	12 / 0.60	5.2 / 0.43	7.5 / 0.33	1.5 / 0.04	0 / 0.00	72 / 1.18	6.8 / 0.14	4.4 / 0.12	1.1 / 0.02	0.2 / 0.01	0.0	25	Cu 0.00 Fe 0.00 Zn 0.08	99[f] 101[g]	24	52	0			
1963																										
1/1-10					127	7.5	13 / 0.65	5.0 / 0.41	7.3 / 0.32	1.5 / 0.04	0 / 0.00	73 / 1.20	4.6 / 0.10	3.0 / 0.08	1.1 / 0.02	0.4 / 0.02	0.1	27	Cu 0.03 Fe 0.00 Zn 0.04	99[f] 101[g]	23	53	0			

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc (TTL), or California Department of Water Resources (DWR), as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (No. 5)

SACRAMENTO RIVER AT BEND (Sta. 17c) (Continued)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH[b]	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by
1963																										USGS
1/11-20					127	7.6	11 / 0.55	5.5 / 0.45	7.2 / 0.31	1.6 / 0.04	0 / 0.00	72 / 1.18	5.6 / 0.12	3.4 / 0.10	1.1 / 0.02	0.2 / 0.01	0.0	26	Cu 0.02 Fe 0.00 Zn 0.01	97[f] 98[g]	23	50	0			
1/21-31					123	7.4	12 / 0.60	4.9 / 0.40	6.5 / 0.28	1.5 / 0.04	0 / 0.00	68 / 1.12	5.6 / 0.12	3.1 / 0.09	1.4 / 0.02	0.2 / 0.01	0.1	24	Cu 0.04 Fe 0.01 Zn 0.02	92[f] 93[g]	21	50	0			
2/1-5					114	7.3	11 / 0.55	4.0 / 0.33	8.1 / 0.35	0.9 / 0.02	0 / 0.00	58 / 0.95	6.2 / 0.13	4.0 / 0.11	3.8 / 0.06	0.5 / 0.03	0.1	23	Fe 0.09 Zn 0.00	91[f] 94[g]	28	44	0			
2/6-17					132	7.3	11 / 0.55	5.5 / 0.45	6.5 / 0.28	1.1 / 0.03	0 / 0.00	68 / 1.11	6.0 / 0.13	4.3 / 0.09	3.2 / 0.05	0.2 / 0.01	0.0	22	Cu 0.01 Fe 0.07 Zn 0.00	99[f] 101[g]	21	50	0			
2/18-28					130	7.7	11 / 0.55	5.4 / 0.44	6.7 / 0.29	1.3 / 0.03	0 / 0.00	69 / 1.13	5.0 / 0.10	3.6 / 0.10	0.7 / 0.01	0.1 / 0.01	0.0	25	Cu 0.01 Fe 0.10 Zn 0.00	93[f] 96[g]	22	50	0			
3/1-6					131	7.7	12 / 0.60	4.9 / 0.40	6.4 / 0.28	1.4 / 0.04	0 / 0.00	68 / 1.11	7.0 / 0.15	3.8 / 0.08	0.9 / 0.01	0.1 / 0.01	0.0	25	Cu 0.02 Fe 0.10 Zn 0.11	94[f] 97[g]	21	50	0			
3/7-13					142	7.8	12 / 0.60	7.3 / 0.60	6.4 / 0.28	1.4 / 0.04	0 / 0.00	71 / 1.16	8.8 / 0.18	4.7 / 0.13	0.5 / 0.01	0.0 / 0.01	0.0	25	Cu 0.03 Fe 0.06 Zn 0.02	101[f] 103[g]	18	60	2			
3/24-31					131	7.6	12 / 0.60	5.0 / 0.41	5.7 / 0.25	1.5 / 0.04	0 / 0.00	61 / 1.00	7.4 / 0.15	4.4 / 0.12	0.5 / 0.01	0.2 / 0.01	0.0	21	Cu 0.02 Fe 0.07 Zn 0.32	88[f] 89[g]	19	51	1			
4/1-5					134	7.5	13 / 0.65	5.0 / 0.41	6.0 / 0.26	1.6 / 0.04	0 / 0.00	65 / 1.07	7.0 / 0.15	4.2 / 0.10	1.0 / 0.03	0.1 / 0.01	0.0	24	Cu 0.03 Fe 0.04 Zn 0.14	90[f] 92[g]	19	53	0			
4/6-15					109	7.4	11 / 0.55	4.3 / 0.35	5.0 / 0.22	1.5 / 0.04	0 / 0.00	55 / 0.90	7.0 / 0.15	4.5 / 0.10	1.7 / 0.03	0.1 / 0.01	0.0	21	Cu 0.04 Fe 0.04 Zn 0.11	82[f] 84[g]	19	45	0			
4/16-30					123	7.4	12 / 0.60	4.6 / 0.38	6.0 / 0.26	1.4 / 0.04	0 / 0.00	66 / 1.08	7.0 / 0.15	2.5 / 0.07	1.8 / 0.03	0.0 / 0.00	0.0	24	Cu 0.02 Fe 0.04 Zn 0.04	93[f] 96[g]	20	49	0			
5/1-10					132	7.4	13 / 0.65	4.4 / 0.36	7.0 / 0.30	1.2 / 0.03	0 / 0.00	68 / 1.11	7.0 / 0.15	4.0 / 0.08	0.6 / 0.01	0.1 / 0.01	0.1	23	Cu 0.04 Fe 0.04 Zn 0.14	92[f] 95[g]	22	51	0			
5/11-20					118	7.8	12 / 0.60	4.3 / 0.35	6.1 / 0.27	1.0 / 0.03	0 / 0.00	67 / 1.10	6.0 / 0.12	3.1 / 0.06	0.8 / 0.01	0.1 / 0.01	0.0	24	Cu 0.02 Fe 0.08 Zn 0.11	89[f] 84[g]	22	47	0			
5/21-31					117	7.8	11 / 0.55	4.4 / 0.36	5.9 / 0.26	1.4 / 0.04	0 / 0.00	63 / 1.03	6.0 / 0.12	3.6 / 0.07	0.6 / 0.01	0.2 / 0.01	0.0	23	Cu 0.03 Fe 0.07 Zn 0.18	87[f] 86[g]	21	46	0			

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (No. 5)

SACRAMENTO RIVER AT BEND (Sta. 12c) (Continued)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH[b]	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1963																										USGS
6/1-10					118	7.2	10 / 0.50	5.1 / 0.42	5.5 / 0.24	1.2 / 0.03	0 / 0.00	61 / 1.00	5.2 / 0.11	2.3 / 0.06	3.3 / 0.05	0.1 / 0.01	0.0	23	Cu 0.00 Fe 0.09 Zn 0.04	86[f] 86[g]	20	46	0			
6/11-20					117	7.1	11 / 0.55	4.5 / 0.37	6.2 / 0.27	1.4 / 0.04	0 / 0.00	61 / 1.00	4.8 / 0.10	2.3 / 0.06	2.0 / 0.03	0.1 / 0.01	0.0	23	Cu 0.01 Fe 0.07 Zn 0.04	85[f] 86[g]	22	46	0			
6/21-30					117	7.6	11 / 0.55	4.4 / 0.36	6.1 / 0.27	1.5 / 0.04	0 / 0.00	60 / 0.98	5.8 / 0.12	2.2 / 0.06	0.6 / 0.01	0.1 / 0.01	0.1	23	Cu 0.02 Fe 0.07 Zn 0.04	85[f] 86[g]	22	46	0			
7/1	Station discontinued																									

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (N

SACRAMENTO RIVER AT BOYES BEND (Sta. 4

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH[b]	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
[illegible]																										USGS
9/1-10					143	8.1	14 / 0.70	5.1 / 0.42	8.4 / 0.37	1.[illegible] / [illegible]	0 / 0.00	78 / 1.28	5.0 / 0.10	4.8 / 0.14	1.3 / 0.02	[illegible] / [illegible]	[illegible]	27	Fe 0.00	105[f] 100[g]	24	56	0			
9/11-2[illegible]					15[illegible]	8.[illegible]	14 / 0.70	6.6 / 0.54	[illegible] / 0.39	1.[illegible] / 0.03	0 / 0.00	86 / 1.41	5.0 / 0.10	5.0 / .14	1.6 / 0.03	0.4 / [illegible]	0.1	28		113[f] 114[g]	23	62	0			
9/21-30					143	8.[illegible]	14 / 0.70	5.1 / 0.42	8.4 / 0.37	1.0 / 0.03	0 / 0.00	78 / 1.28	5.0 / 0.10	4.4 / 0.12	1.[illegible] / [illegible]	[illegible] / 0.02	0.0	26	Fe 0.00	104[f] 1[illegible]8[g]	24	[illegible]	0			
1[illegible]/1-12					138	7.5	1[illegible] / 0.60	5.7 / 0.47	7.6 / 0.33	1.1 / 0.03	0 / 0.00	72 / 1.23	5.6 / 0.12	3.[illegible] / .10	1.7 / 0.03	0.[illegible] / 0.01	0.0	27	Fe 0.01	101[f] 90[g]	23	53	0			
10/13-17					99	6.[illegible]	[illegible].4 / 0.42	3.6 / 0.30	5.[illegible] / 0.23	1.5 / 0.04	0 / 0.00	41 / 0.67	2.6 / 0.12	3.1 / 0.09	5.7 / 0.09	0.[illegible] / 0.01	0.0	22	Fe 0.10	75[f] 72[g]	23	36	2			
10/18-31					160	7.6	14 / 0.70	6.1 / 0.50	9.[illegible] / 0.42	1.6 / 0.04	0 / 0.00	84 / 1.38	8.2 / 0.17	5.[illegible] / 0.15	0.7 / 0.01	0.2 / 0.01	0.1	35	Fe 0.09	122[f] 130[g]	25	60	0			
11/1-10					148	7.5	12 / 0.60	6.1 / 0.50	[illegible].7 / 0.38	2.0 / 0.[illegible]	0 / 0.00	76 / 1.25	7.0 / 0.15	5.0 / 0.14	1.1 / 0.02	0.1 / 0.01	0.0	27	Fe 0.07	10[illegible][f] 11[illegible][g]	25	55	0			
11/11-20					156	7.7	12 / 0.60	7.1 / 0.58	[illegible].[illegible] / 0.42	[illegible].[illegible] / [illegible].[illegible]	0 / 0.00	82 / 1.34	5.6 / 0.12	5.[illegible] / 0.15	1.0 / 0.02	0.[illegible] / 0.01	0.0	27	Fe 0.00	110[f] 108[g]	25	57	0			
11/21-30					156	7.7	14 / 0.70	6.0 / 0.49	[illegible].[illegible] / 0.39	1.[illegible] / 0.04	0 / 0.00	83 / 1.36	6.4 / 0.13	5.[illegible] / 0.15	0.8 / 0.01	0.1 / 0.01	0.0	27	Fe 0.03	111[f] 107[g]	24	60	0			
12/1-15					144	7.[illegible]	12 / 0.60	7.4 / 0.61	[illegible].7 / 0.38	1.[illegible] / 0.[illegible]	0 / 0.00	76 / 1.[illegible]	7.4 / 0.15	6.5 / 0.18	1.5 / 0.[illegible]	0.1 / 0.01	0.1	[illegible]	Fe 0.01	112[f] 111[g]	23	63	1			
12/16-1[illegible]					114	7.[illegible]	11 / 0.55	3.8 / 0.31	6.[illegible] / 0.26	1.1 / 0.03	0 / 0.00	56 / 0.92	6.6 / 0.14	6.0 / 0.17	1.4 / 0.02	0.1 / 0.01	0.0	35	Fe 0.00	89[f]	23	43	0			
12/20-2[illegible]					143	7.5	12 / 0.[illegible]	6.7 / 0.55	[illegible].1 / 0.35	1.[illegible] / 0.[illegible]	0 / 0.00	74 / 1.21	5.4 / 0.11	7.[illegible] / 0.[illegible]	1.1 / 0.02	0.1 / 0.01	0.1	[illegible]	Fe 0.00	107[f] 108[g]	[illegible]2	60	0			
1[illegible]3																										
1/16-31					156	7.5	14 / 0.70	5.6 / 0.46	[illegible].7 / 0.36	1.7 / 0.04	0 / 0.00	83 / 1.36	7.2 / 0.15	5.[illegible] / 0.14	0.8 / 0.01	0.2 / 0.01	0.1	27	Fe 0.06	111[f] 108[g]	24	5[illegible]	0			
2/1-7					117	7.1	11 / 0.55	4.4 / 0.36	[illegible].7 / 0.25	1.1 / 0.03	0 / 0.00	56 / 0.92	5.0 / 0.10	4.4 / 0.12	[illegible].1 / 0.06	0.[illegible] / 0.01	0.0	21	Fe [illegible].06	86[f] 8[illegible]	21	45	0			

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS) United States Department of the Interior, Bureau of Reclamation (USBR), United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc (TTL); or California Department of Water Resources (DWR), as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (N

SACRAMENTO RIVER AT BOYES BEND (Sta. 4) (Cont.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (No. 5)

SACRAMENTO RIVER AT BOYERS BEND (Sta. 14c) (continued)

Date and time sampled PST	Discharge in cfs	Temp. in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH[b]	Mineral constituents in ppm equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1963																										USGS
2/8-17					148	6.5	14 / 0.70	5.2 / 0.43	7.2 / 0.31	1.5 / 0.04	0 / 0.00	66 / 1.08	5.6 / 0.12	5.4 / 0.15	3.4 / 0.05	0.2 / 0.01	0.1	25	Fe 0.11	101[f] 115[g]	21	56	2				
2/18-28					150	7.6	13 / 0.65	6.2 / 0.51	7.2 / 0.31	1.1 / 0.03	0 / 0.00	78 / 1.28	6.0 / 0.12	5.1 / 0.14	1.8 / 0.03	0.0 / 0.00	0.0	26	Fe 0.12	105[f] 107[g]	21	58	0				
3/1-8					160	7.6	14 / 0.70	7.7 / 0.63	7.4 / 0.32	1.3 / 0.03	0 / 0.00	83 / 1.36	7.0 / 0.15	5.1 / 0.14	0.8 / 0.01	0.2 / 0.01	0.0	27	Fe 0.04	112[f] 112[g]	19	66	0				
3/9-23					191	7.5	17 / 0.85	8.9 / 0.73	8.5 / 0.37	1.5 / 0.04	0 / 0.00	98 / 1.61	9.0 / 0.19	6.8 / 0.19	1.2 / 0.02	0.2 / 0.01	0.0	27	Fe 0.03	128[f] 126[g]	19	79	0				
3/24-31					152	7.6	14 / 0.70	6.7 / 0.55	6.3 / 0.27	1.5 / 0.04	0 / 0.00	76 / 1.25	9.0 / 0.19	5.7 / 0.16	1.0 / 0.02	0.2 / 0.01	0.0	24	Fe 0.04	105[f] 108[g]	17	63	1				
4/1-7					151	7.4	14 / 0.70	6.3 / 0.52	6.6 / 0.29	1.5 / 0.04	0 / 0.00	74 / 1.21	9.0 / 0.19	5.0 / 0.14	2.1 / 0.03	0.1 / 0.01	0.0	24	Fe 0.04	105[f] 105[g]	19	61	0				
4/8-17					117	7.5	11 / 0.55	4.7 / 0.39	5.2 / 0.23	1.5 / 0.04	0 / 0.00	57 / 0.93	7.0 / 0.15	4.5 / 0.13	1.1 / 0.03	0.0 / 0.00	0.0	22	Fe 0.04	86[f] 89[g]	19	47	0				
4/18-30					145	7.4	13 / 0.65	6.2 / 0.51	6.3 / 0.27	1.6 / 0.04	0 / 0.00	69 / 1.13	7.0 / 0.15	6.2 / 0.17	1.8 / 0.03	0.1 / 0.01	0.0	24	Fe 0.04	100[f] 100[g]	18	58	1				
5/1-10					149	7.9	15 / 0.75	5.5 / 0.45	7.1 / 0.31	1.1 / 0.03	0 / 0.00	78 / 1.28	7.2 / 0.15	4.8 / 0.14	1.2 / 0.02	0.1 / 0.01	0.1	25	Fe 0.07	105[f] 106[g]	20	60	0				
5/11-20					133	7.7	13 / 0.65	4.9 / 0.40	6.5 / 0.28	1.1 / 0.03	0 / 0.00	70 / 1.15	4.6 / 0.10	3.5 / 0.10	1.2 / 0.02	0.2 / 0.01	0.1	25	Fe 0.09	94[f] 96[g]	21	52	0				
5/21-31					141	7.4	13 / 0.65	5.6 / 0.46	7.0 / 0.30	1.2 / 0.03	0 / 0.00	75 / 1.23	7.0 / 0.15	3.9 / 0.11	1.1 / 0.02	0.2 / 0.01	0.1	25	Fe 0.07	101[f] 100[g]	21	55	0				
6/1-10					159	7.3	13 / 0.65	7.4 / 0.61	8.0 / 0.35	1.6 / 0.04	0 / 0.00	81 / 1.33	7.6 / 0.16	4.2 / 0.12	2.8 / 0.05	0.1 / 0.01	0.1	25	Fe 0.02	110[f] 110[g]	21	63	0				
6/11-20					159	7.4	14 / 0.70	6.6 / 0.54	8.0 / 0.35	1.6 / 0.04	0 / 0.00	81 / 1.33	6.8 / 0.14	4.4 / 0.12	2.5 / 0.04	0.0 / 0.00	0.1	25	Fe 0.05	109[f] 108[g]	21	62	0				
6/21-30					152	7.4	12 / 0.60	7.2 / 0.59	8.0 / 0.35	1.4 / 0.04	0 / 0.00	78 / 1.28	5.6 / 0.12	4.0 / 0.11	2.1 / 0.03	0.6 / 0.03	0.1	26	Fe 0.05	105[f] 105[g]	22	60	0				
7/1	Station discontinued																									

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT BUTTE CITY (STA. 87a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										USGS
[illegible] 1125	[illegible]	57	9.5	[illegible]	37	7.3 / 7.7	— / 1.14[c]		7.[illegible] / [illegible]		0 / 0.00	58 / 0.95		5.0 / 0.14			0.4				21	57	9	30	Median [illegible]2.	
[illegible] [illegible]	[illegible]	5[illegible]	[illegible]	[illegible]	[illegible]	7.2 / 7.7	— / 1.04[c]		8.5 / 0.37		0 / 0.00	73 / 1.20		3.8 / 0.11			0.0				26	52	0	30	Maximum 2,[illegible].	
[illegible] 1215	[illegible]	5[illegible]	[illegible]	[illegible]3	[illegible]	7.3 / 7.4	— / 0.5[illegible]		3.8 / 0.17		0 / 0.00	40 / 0.66		2.0 / [illegible]			[illegible]				[illegible]3	28	[illegible]	170	Minimum .2[illegible]	
1963																										
[illegible]15 1525	[illegible]	[illegible]	11.[illegible]	[illegible]	[illegible]	7.[illegible] / [illegible]	— / 1.10		8.1 / 0.35		0 / 0.00	79 / 1.29		5.6 / 0.16			[illegible]				24	[illegible]5	0	4		
[illegible] 11[illegible]	[illegible],[illegible]00	52	1[illegible].9	[illegible]	147	7.3 / 7.7	— / 1.14[c]		7.1 / 0.31		0 / 0.00	76 / 1.25		4.5 / 0.13			[illegible]				21	[illegible]7	0	35		
3/[illegible] [illegible]	6,5[illegible]	53	[illegible].7	9[illegible]	169	7.[illegible] / 7.[illegible]	— / 1.3[illegible]		8.1 / 0.3[illegible]		0 / 0.00	86 / 1.41		5.5 / 0.1[illegible]			[illegible]				[illegible]	68		7		
[illegible]16 131[illegible]	[illegible],2[illegible]	5[illegible]	[illegible]	[illegible]	112	7.[illegible] / 7.[illegible]	— / [illegible]		5.2 / 0.23		0 / 0.00	59 / 0.97		2.[illegible] / 0.0[illegible]			[illegible]				[illegible]1	44	[illegible]	1[illegible]		
5/1[illegible] 1305	16,[illegible]	[illegible]	9.9	99	127	7.[illegible] / 7.[illegible]	13 / 0.65	4.5 / 0.37	6.4 / 0.2[illegible]	1.[illegible] / 0.0[illegible]	0 / 0.00	70 / 1.15	5.[illegible] / 0.1[illegible]	2.8 / 0.08	1.3 / 0.0[illegible]	0.1 / 0.01	0.0	[illegible]3	PO_4 0.0[illegible]	91[f] 98[g]	21	51	[illegible]	[illegible]5		
6/3 1305	8,720	65	[illegible].3	98	1[illegible]	7.[illegible] / 7.5	— / 1.12[c]		6.6 / 0.2[illegible]		0 / 0.00	74 / 1.21		3.[illegible] / 0.0[illegible]			0.1				21	56	[illegible]	1[illegible]		
7/8 10[illegible]	[illegible],[illegible]30	63	[illegible].6	[illegible]	124	7.[illegible] / 7.[illegible]	— / [illegible][c]		6.0 / 0.26		0 / 0.00	[illegible] / 1.13		3.0 / 0.08			0.0				[illegible]1	48	[illegible]	8		
8/6 1250	[illegible],[illegible]00	65	9.7	10[illegible]	1[illegible]	7.[illegible] / 7.8	— / 1.00[c]		5.8 / 0.25		0 / 0.00	63 / 1.0[illegible]		2.4 / 0.07			0.0				20	50	[illegible]	15		
9/[illegible] 1[illegible]	[illegible],5[illegible]	65	[illegible]	1[illegible]4	[illegible]	7.[illegible] / 7.[illegible]	1[illegible] / 0.5[illegible]	2.[illegible] / 0.44	5.[illegible] / 0.23	0.9 / 0.0[illegible]	[illegible] / 0.00	61 / 1.00	5.0 / 0.10	2.2 / 0.0[illegible]	1.[illegible] / 0.02	0.1 / 0.01	0.0	20	PO_4 0.[illegible]0 As [illegible] ABS 0.00	8[illegible][f] 76[g]	19	47	[illegible]	[illegible]		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (No. 5)

SACRAMENTO RIVER AT BUTTE CITY (Sta. 87a)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH[b]	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										USGS
9/1-10					128	7.9	12 / 0.60	5.0 / 0.41	8.1 / 0.35	1.1 / 0.03	0 / 0.00	70 / 1.15	5.8 / 0.12	4.2 / 0.12	0.5 / 0.01	0.3 / 0.02	0.1	28	Fe 0.00	99[f] 91[g]	25	50	0			
9/11-19					129	7.9	13 / 0.65	5.5 / 0.45	7.4 / 0.32	1.2 / 0.03	0 / 0.00	70 / 1.15	7.0 / 0.15	3.8 / 0.11	0.5 / 0.01	0.3 / 0.02	0.0	24	Fe 0.00	97[f] 96[g]	22	55	0			
9/21-30					131	8.0	12 / 0.60	6.1 / 0.50	7.1 / 0.31	1.1 / 0.03	0 / 0.00	72 / 1.18	7.0 / 0.15	4.0 / 0.11	0.2 / 0.00	0.4 / 0.02	0.0	23	Fe 0.00	96[f] 92[g]	22	55	0			
10/1-10					131	7.1	11 / 0.55	5.6 / 0.46	7.5 / 0.33	1.3 / 0.03	0 / 0.00	71 / 1.16	5.6 / 0.12	3.4 / 0.10	1.7 / 0.03	0.2 / 0.01	0.1	26	Fe 0.01	97[f] 93[g]	24	50	0			
10/11-16					112	7.0	9.7 / 0.48	4.3 / 0.35	6.2 / 0.27	1.3 / 0.03	0 / 0.00	50 / 0.82	7.2 / 0.15	4.2 / 0.12	3.5 / 0.06	0.2 / 0.01	0.1	22	Fe 0.10	84[f] 88[g]	24	42	1			
10/17-31					137	7.4	12 / 0.60	5.5 / 0.45	7.3 / 0.32	1.2 / 0.03	0 / 0.00	70 / 1.15	7.0 / 0.15	4.0 / 0.11	1.7 / 0.03	0.2 / 0.01	0.0	26	Fe 0.07	99[f] 94[g]	23	52	0			
11/1-10					144	7.3	11 / 0.55	6.2 / 0.51	8.0 / 0.35	1.7 / 0.04	0 / 0.00	75 / 1.23	6.0 / 0.12	4.2 / 0.12	1.2 / 0.02	0.1 / 0.01	0.0	28	Fe 0.00	103[f] 103[g]	24	53	0			
11/11-20					142	7.4	12 / 0.60	5.5 / 0.45	8.1 / 0.35	2.0 / 0.05	0 / 0.00	75 / 1.23	5.6 / 0.12	4.2 / 0.12	0.9 / 0.01	0.0 / 0.00	0.0	26	Fe 0.03	101[f] 103[g]	24	53	0			
11/21-30					146	7.4	12 / 0.60	5.8 / 0.48	8.8 / 0.38	2.2 / 0.06	0 / 0.00	76 / 1.25	6.4 / 0.13	4.8 / 0.14	1.1 / 0.02	0.1 / 0.01	0.0	28	Fe 0.07	106[f] 107[g]	25	54	0			
12/1-14					141	7.2	13 / 0.65	6.4 / 0.53	8.1 / 0.35	1.6 / 0.04	0 / 0.00	71 / 1.16	7.0 / 0.15	6.9 / 0.19	1.0 / 0.02	0.1 / 0.01	0.1	24	Fe 0.00	103[f] 101[g]	22	59	1			
12/15-20					115	7.2	11 / 0.55	5.5 / 0.45	6.4 / 0.28	1.2 / 0.03	0 / 0.00	59 / 0.97	7.0 / 0.15	4.9 / 0.14	1.5 / 0.02	0.1 / 0.01	0.1	24	Fe 0.02	91[f] 92[g]	21	50	2			
12/22-31					137	7.5	13 / 0.65	5.8 / 0.48	8.0 / 0.35	1.2 / 0.03	0 / 0.00	74 / 1.21	6.6 / 0.14	4.9 / 0.14	1.2 / 0.02	0.2 / 0.01	0.1	27	Fe 0.00	104[f] 98[g]	23	57	0			
1963																										
1/1-10					139	7.6	13 / 0.65	5.2 / 0.43	7.3 / 0.32	1.6 / 0.04	0 / 0.00	76 / 1.25	6.6 / 0.14	4.2 / 0.12	0.6 / 0.01	0.2 / 0.01	0.1	26	Fe 0.00	102[f] 98[g]	22	54	0			
1/11-20					146	7.6	11 / 0.55	6.9 / 0.57	8.0 / 0.35	1.7 / 0.04	0 / 0.00	78 / 1.28	5.2 / 0.11	4.6 / 0.13	0.9 / 0.01	0.2 / 0.01	0.1	28	Fe 0.00	105[f] 100[g]	23	56	0			

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (No. 5)

SACRAMENTO RIVER AT BUTTE CITY (Sta. 87a) (Continued)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH[b]	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1963																										USGS
1/21-31					142	7.7	14 / 0.70	4.6 / 0.38	8.0 / 0.35	1.7 / 0.04	0 / 0.00	75 / 1.23	6.6 / 0.14	5.0 / 0.14	0.6 / 0.01	0.2 / 0.01	0.1	26	Fe 0.00	104[f] 102[g]	24	54	0			
2/1-[illegible]					116	7.[illegible]	11 / 0.55	4.4 / 0.36	5.5 / 0.24	1.2 / 0.03	0 / 0.00	54 / 0.89	6.8 / 0.14	5.4 / 0.15	1.6 / 0.03	0.1 / 0.01	0.1	25	Fe 0.05	88[f] 95[g]	20	45	1			
2/6-17					147	7.[illegible]	14 / 0.70	5.4 / 0.44	7.1 / 0.31	1.2 / 0.03	0 / 0.00	77 / 1.26	6.8 / 0.14	4.8 / 0.14	1.1 / 0.02	0.2 / 0.01	0.0	26	Fe 0.03	105[f] 110[g]	21	57	0			
2/18-28					150	7.7	13 / 0.65	6.3 / 0.52	7.2 / 0.31	1.3 / 0.03	0 / 0.00	79 / 1.29	7.2 / 0.15	4.4 / 0.12	1.3 / 0.02	0.2 / 0.01	0.0	27	Fe 0.10	107[f] 110[g]	21	58	0			
3/1-7					151	7.5	12 / 0.60	7.4 / 0.61	7.0 / 0.30	1.3 / 0.03	0 / 0.00	80 / 1.31	4.8 / 0.10	4.5 / 0.13	1.1 / 0.02	0.2 / 0.01	0.0	25	Fe 0.05	102[f] 100[g]	19	61	0			
3/8-22					180	7.3	17 / 0.85	6.4 / 0.53	8.1 / 0.35	1.7 / 0.04	0 / 0.00	90 / 1.48	9.0 / 0.19	6.2 / 0.17	1.2 / 0.02	0.2 / 0.01	0.0	27	Fe 0.04	121[f] 123[g]	20	69	0			
3/24-31					145	7.4	14 / 0.70	5.5 / 0.45	6.3 / 0.27	1.6 / 0.04	0 / 0.00	72 / 1.18	7.0 / 0.15	4.8 / 0.14	1.1 / 0.02	0.2 / 0.01	0.0	23	Fe 0.07	99[f] 107[g]	18	57	0			
4/1-[illegible]					149	7.3	14 / 0.70	6.3 / 0.52	6.4 / 0.28	1.6 / 0.04	0 / 0.00	71 / 1.16	9.0 / 0.19	5.5 / 0.16	1.8 / 0.03	0.0 / 0.00	0.0	24	Fe 0.03	104[f] 107[g]	18	61	3			
4/7-16					115	7.3	12 / 0.60	3.9 / 0.32	5.1 / 0.22	1.7 / 0.04	0 / 0.00	58 / 0.95	5.0 / 0.10	4.5 / 0.13	1.8 / 0.03	0.0 / 0.00	0.0	21	Fe 0.03	84[f] 89[g]	19	46	0			
4/17-25					128	7.[illegible]	12 / 0.60	5.4 / 0.44	5.9 / 0.26	1.6 / 0.04	0 / 0.00	66 / 1.08	7.0 / 0.15	2.8 / 0.08	1.9 / 0.03	0.0 / 0.00	0.0	24	Fe 0.04	94[f] 95[g]	19	52	0			
5/2-10					144	7.[illegible]	17 / 0.85	3.6 / 0.30	6.5 / 0.28	1.4 / 0.03	0 / 0.00	70 / 1.15	7.0 / 0.15	6.2 / 0.17	1.1 / 0.02	0.1 / 0.01	0.1	25	Fe 0.08	102[f] 105[g]	19	57	0			
5/11-19					132	7.[illegible]	13 / 0.65	5.2 / 0.43	6.5 / 0.28	1.6 / 0.04	0 / 0.00	70 / 1.15	5.2 / 0.11	3.2 / 0.09	1.2 / 0.02	0.1 / 0.01	0.1	25	Fe 0.09	95[f] 96[g]	20	54	0			
5/21-31					134	7.[illegible]	14 / 0.70	4.6 / 0.38	6.6 / 0.29	1.2 / 0.03	0 / 0.00	70 / 1.15	8.6 / 0.18	3.6 / 0.10	1.0 / 0.02	0.2 / 0.01	0.1	25	Fe 0.07	99[f] 100[g]	21	54	0			
6/1-10					143	7.[illegible]	13 / 0.65	5.7 / 0.47	7.0 / 0.30	1.2 / 0.03	0 / 0.00	72 / 1.18	7.4 / 0.15	3.6 / 0.10	0.6 / 0.01	0.1 / 0.01	0.1	25	Fe 0.03	99[f] 100[g]	21	56	0			

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated

TABLE D-3
ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (No. 5)

SACRAMENTO RIVER AT BUTTE CITY (Sta. 87a) (Continued)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH[b]	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1963																										USGS
6/11-20					139	7.8	12 0.60	6.1 0.50	7.6 0.33	1.4 0.04	0 0.00	72 1.18	6.8 0.14	3.5 0.10	2.2 0.04	0.0 0.00	0.0	28	Fe 0.06	103[f] 101[g]	22	55	0			
6/21-30					132	7.3	11 0.55	5.7 0.47	7.1 0.31	1.6 0.04	0 0.00	68 1.11	7.0 0.15	3.2 0.09	2.8 0.05	0.1 0.01	0.1	26	Fe 0.05	98[f] 94[g]	23	51	0			
7/1	Station discontinued																									

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT COLUSA (STA. 13b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform MPN/ml h	Analyzed by i
1962																										USGS
10/17 0950	15,400	56	9.4	90	125	7.1 7.6	6.5 0.32				0 0.00	27 0.43		4.8 0.14			0.1				23	48	1	70		
11/27 1045	6,050	54	10.2	94	141	7.2 7.7	8.4 0.37				0 0.00	76 1.25		5.6 0.16			0.0				26	53	0	10		
12/18 1050	31,300	55	10.1	95	93	7.3 7.8	2.8 0.14				0 0.00	45 0.74		2.8 0.08			0.0				29	35	0	140		
1963																										
1/15 1330	9,660	45	12.1	100	148	7.4 7.7	8.1 0.35				0 0.00	76 1.25		5.6 0.16			0.0				23	57	0	10		
2/14 0945	24,100	52	10.9	99	145	7.2 7.7	8.1 0.35				0 0.00	76 1.25		4.2 0.12			0.0				24	56	0	40		
3/19 1000	7,100	52	10.7	97	174	7.4 7.9	7.6 0.33				0 0.00	80 1.46		5.9 0.17			0.0				19	70	0	10		
4/16 1040	39,200	54	9.5	88	107	7.4 7.9	4.8 0.21				0 0.00	56 0.92		1.9 0.05			0.0				19	44	0	230		
5/14 1045	17,200	60	10.0	100	127	7.2 7.7	12 0.60	7.6 0.31	6.4 0.27	1.0 0.03	0 0.00	69 1.13	5.0 0.10	2.2 0.06	0.2 0.00	0.1 0.01	0.0	24	PO$_4$ 1.0; As 0.00 ABS 0.00	91 f 98 g	21	50	0	20		
6/4 1100	8,770	66	9.0	96	144	7.2 7.8	6.1 0.27				0 0.00	76 1.25		4.4 0.12			0.0				19	53	0	10		
7/8 0840	7,980	69	9.4	99	126	7.4 7.9	6.5 0.28				0 0.00	69 1.13		4.4 0.10			0.0				22	51	0	6		
8/6 1100	7,760	68	9.2	100	122	7.5 8.0	6.2 0.28				0 0.00	64 1.07		4.0 0.08			0.0				21	49	0	6		
9/10 1110	9,190	65	9.6	101	115	7.4 7.9	5.0 0.20	2.4 0.14	6.5 0.24	1.1 0.03	0 0.00	64 1.05	4.0 0.08	2.8 0.08	0.8 0.01	0.0 0.00	0.0	20	PO$_4$ 0.2; As 0.00 ABS 0.00	82 f 87 g	30	47	0	10		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER ABOVE COLUSA TROUGH (STA. 14b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat		a/b	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfates (SO_4)	Chlorides (Cl)	Nitrates (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents			Total ppm	N.C. ppm			
1962																									
10/17 0830	21,600	56	8.8	84	114	7.9 / 7.1	0.80		7.6 / 0.33		0 / 0.00	47 / 0.77		2.5 / 0.16			0.1			29	40	1	6	Median 2.	
11/7 0930	7,2[illegible]	54	10.1	[illegible]	152	7.5 / 7.1	1.14		2.3 / 0.10		0 / 0.00	79 / 1.29		5.0 / 0.14			0.0			26	57	0	25	Max [illegible] f,000.	
12/18 0945	22,[illegible]00	55	9.6	91	137	7.3 / 7.5	0.[illegible]		2.3 / 0.09		0 / 0.00	62 / 1.02		5.8 / 0.16			0.1			29	48		5	Mi: [illegible] .2	
1963																									
1/15 1110	11,[illegible]00	43	12.1	97	156	7.4 / 7.9	1.20		8.7 / 0.38		0 / 0.00	72 / 1.20		4.7 / 0.13			0.1			34	59	1	[illegible]		
[illegible]/13 0840	3,800 (M.D.)	52	11.[illegible]	101	139	7.4 / 7.1	1.20		8.7 / 0.38		0 / 0.00	78 / 1.28		5.2 / 0.15			0.0			24	[illegible]	0	6[illegible]		
2/13 0840	2,[illegible]00 (M.D.)	51	10.6	95	201	7.3 / 7.5	1.40		12 / 0.52		0 / 0.00	95 / 1.59		9.[illegible] / .27			0.1[illegible]			[illegible]	74	[illegible]	[illegible]		
4/16 0[illegible]5	[illegible]6,[illegible]00 (M.D.)	55	[illegible].[illegible]	86	113	7.2 / 7.4	0.[illegible]5		6.1 / 0.27		0 / 0.00	61 / 1.00		2.[illegible] / .08			0.[illegible]			[illegible]2	[illegible]7	[illegible]	[illegible]		
5/14 0850	16,[illegible]00	62	10.5	107	14[illegible]	7.8 / 7.7	1.5 / 0.05	5.[illegible] / 0.46	7.8 / 0.34	1.6 / 0.04	0 / 0.00	70 / 1.15	8.0 / 0.17	4.5 / 0.13	0.6 / 0.01	0.1 / 0.01	0.0	24	PO_4 0.10 As 0.00 ABS 0.00	[illegible]f 1000	[illegible]3	55	0	[illegible]		
6/3 0955	10,800	68	8.1	88	181	7.[illegible] / 7.[illegible]	1.[illegible]		11 / 0.47		0 / 0.00	88 / 1.44		6.8 / 0.19			0.[illegible]			[illegible].00	[illegible]3	0	[illegible]		
7/8 0740	7,570	67	8.8	95	149	7.[illegible] / 7.[illegible]	1.15		[illegible].[illegible] / 0.36		0 / 0.00	78 / 1.28		6.0 / 0.17			0.[illegible]			[illegible]	[illegible]1	[illegible]	[illegible]		
8/6 0950	6,600	68	8.7	95	146	7.[illegible] / 8.0	1.16		8.[illegible] / 0.36		0 / 0.00	74 / 1.21		5.4 / 0.15			0.0			[illegible]4	57	0	10		
9/10 1[illegible]40	10,120	67	8.[illegible]	[illegible]5	158	7.[illegible] / 7.6	12 / 0.60	7.1 / 0.59	[illegible].[illegible] / 0.43	1.1 / 0.03	0 / 0.00	[illegible]0 / 1.31	6.[illegible] / 0.12	[illegible].[illegible] / 0.17	0.0 / 0.00	0.1 / 0.01	0.[illegible]	21	PO_4 0.20 As 0.00 ABS 0.00	108[illegible] 1108	[illegible]0	57	[illegible]	10		

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT DELTA (STA. 11)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
1956																										
2/7 1 15	2	56	11.	107	[illegible]	8.1 8.1	1.7 0.08		1.4 0.06		0 0.00	108 1.34		[illegible] 0.28			.0							3	Min 1 au 1	
12/11 12 [illegible]	[illegible]	[illegible]	11.7	101	[illegible]	7.6 7.7	1.04		[illegible] 0.13		0 0.00	66 1.08		4.0 0.11			[illegible]							18	Max [illegible] 2,4 [illegible]	
1/11 [illegible]	856	44	12.2	99	[illegible]	7.4 8.1	0.02		4.2 0.18		0 0.00	62 1.02		3.2 0.09			0.1			16	46	[illegible]	[illegible]	Mi [illegible] 2.5	
1963																										
1/2 0910	[illegible]	42	12.6	[illegible]	109	7.3 8.1	[illegible]		4.8 0.21		0 0.00	61 1.00		4.4 0.12			0.0			19	46	0	1			
2/13 1015	4,75[illegible]	48	11.8	102	68	7.2 7.5	0.62		3.1 0.09		[illegible] [illegible]	22 0.04		1.5 0.04			[illegible]			13	31	[illegible]	[illegible]			
3/5 112	844	44	12.8	104	101	7.4 8.1	0.95		4.1 0.18		0 0.00	60 0.98		4.3 0.12			0.0			17	43	0	2			
4/[illegible] 1450	3,940	47	11.9	105	75	7.4 7.4	0.69		2.6 0.11		[illegible] [illegible]	43 0.70		0.2 0.13			0.0			14	35	[illegible]	4			
5/1 1205	2,300	50	11.2	103	79	7.4 7.4	4.2 0.21	2.2 0.51	2.6 0.11	0.4 0.01	0 0.00	46 0.75	1.0 0.02	1.5 0.04	1.0 0.02	0.6 0.00	0.0	17	PO_4 0.00	57[f] 60[g]	13	36	[illegible]	6		
6/3 1845	978	55	10.3	101	94	7.4 [illegible]	[illegible]		4.4 0.19		0 0.00	55 [illegible]		4.2 0.09			0.0				14	43	0	2		
7/9 1015	420	64	9.8	1[illegible]	125	7.2 [illegible]	1.2		7.0 0.3[illegible]		0 0.00	70 1.15		5.4 0.15			0.1				20	61	4	4		
8/6 0915	282	67	9.6	108	136	7.4 8.1	0.94		9.0 0.39		0 0.00	73 [illegible]		6.2 0.17			0.1				29	47	0	[illegible]		
9/10 1[illegible]15	230	65	9.7	106	143	8.[illegible] 8.[illegible]	1.[illegible] 0.50	6.8 0.56	9.5 0.41	0.9 0.02	[illegible] 0.00	77 1.26	1.0 0.02	8.4 0.24	0.4 0.01	0.2 0.01	0.1	32	PO_4 0.05 As 0.00 ABS 0.00	107[f] 103[g]	28	54	0	4		

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT PUMPHOUSE (STA. 13A)

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT FREEPORT (STA. 15b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
1962							equivalents per million																			
10/3 1330	8800	68	8.8	96	164	7.4 / 7.6	1.26 c		11 / 0.48		0 / 0.00	83 / 1.36		7.2 / 0.20			0.1			108 e	28	63	0	10	Median 230.	USGS
11/8 1445	16100	59	9.4	93	175	7.5 / 7.6	1.21 c		12 / 0.52		0 / 0.00	78 / 1.28		10 / 0.28			0.3			116 e	30	61	0	15	Maximum >7000.	
12/5 1350	38700	50	10.8	95	97	7.2 / 7.7	0.76 c		4.8 / 0.21		0 / 0.00	48 / 0.79		3.5 / 0.10			0.1			64 e	22	38	0	25	Minimum 6.2	
1963																										
1/15 1335	16800	42	12.2	97	165	7.3 / 7.7	1.36 c		11 / 0.48		0 / 0.00	78 / 1.28		7.9 / 0.22			0.1			109 e	27	65	1	10		
2/4 1500	78800	49	11.9	103	59	7.1 / 7.4	0.48 c		2.7 / 0.12		0 / 0.00	26 / 0.43		2.8 / 0.08			0.1			39 e	20	24	3	30		
3/14 1545	15000	52	10.1	91	206	7.4 / 7.7	1.56 c		13 / 0.57		0 / 0.00	94 / 1.54		11 / 0.31			0.0			136 e	28	75	0	15		
4/11 1615	78900	52	11.0	99	87	7.3 / 7.6	0.70 c		3.9 / 0.17		0 / 0.00	43 / 0.70		2.5 / 0.07			0.1			57 e	20	35	0	100		
5/16 0815	39900	59	10.1	100	114	7.3 / 7.7	11 / 0.55	4.3 / 0.35	5.6 / 0.24	0.8 / 0.02	0 / 0.00	56 / 0.92	5.0 / 0.10	4.5 / 0.13	0.4 / 0.01	0.2 / 0.01	0.0	17	AS 0.00 ABS 0.0 PO_4 1.1	77 f 79 g	21	45	0	60		
6/4 1245	25800	66	8.9	95	148	7.3 / 7.8	1.08 c		9.5 / 0.41		0 / 0.00	68 / 1.11		6.2 / 0.17			0.0			98 e	28	54	0	20		
7/8 0850	13000	68	8.7	95	171	7.7	1.18 c		11 / 0.48		0 / 0.00	80 / 1.31		8.8 / 0.25			0.0			113 e	29	59	0	7		
8/8 1300	11500	71	8.5	96	173	7.3 / 8.0	1.23 c		12 / 0.52		0 / 0.00	78 / 1.28		8.5 / 0.24			0.0			114 e	30	62	0	4		
9/11 0630	16000	68	7.7	84	212	7.3 / 7.7	15 / 0.75	8.4 / 0.69	16 / 0.70	1.6 / 0.04	0 / 0.00	101 / 1.66	9.0 / 0.19	12 / 0.34	1.9 / 0.03	0.2 / 0.01	0.1	20	AS 0.00 ABS 0.0 PO_4 0.25	134 f 129 g	32	72	0	20		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT FREEPORT (STA. 15b)

Date and time sampled P.S.T. 1962	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH[b]	Mineral constituents in parts per million / equivalents per million												Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)				Total ppm	N.C. ppm			
10/1 - 13	11400				165	7.2	13 0.65	6.3 0.52	11 0.48	1.3 0.03	0 0.00	78 1.28	8.4 0.17	7.8 0.22	4.0 0.06	0.3 0.02	0.0	23	Fe 0.01 Color 4	113[f] 108[g]	29	59	0			USGS
10/14 - 19	67200				82	6.9	7.1 0.35	3.2 0.26	4.0 0.17	1.4 0.04	0 0.00	36 0.59	4.8 0.10	2.8 0.08	2.5 0.04	0.2 0.01	0.0	13	Fe 0.13 Color 33	57[f] 59[g]	21	30	0			
10/20 - 31	28300				145	7.1	12 0.60	5.5 0.45	8.4 0.37	1.7 0.04	0 0.00	69 1.13	7.4 0.15	5.6 0.16	2.0 0.03	0.2 0.01	0.0	22	Fe 0.06 Color 17	99[f] 107[g]	25	53	0			
11/1 - 10	17200				148	7.4	12 0.60	6.0 0.49	9.0 0.39	1.6 0.04	0 0.00	71 1.16	8.4 0.17	5.9 0.17	1.4 0.02	0.1 0.01	0.0	21	Fe 0.00 Color 5	100[f] 101[g]	26	55	0			
11/11 - 20	15500				148	7.4	12 0.60	6.1 0.50	9.6 0.42	1.6 0.04	0 0.00	72 1.18	7.6 0.16	6.0 0.17	1.3 0.02	0.1 0.01	0.0	22	Fe 0.01 Color 5	101[f] 100[g]	27	55	0			
11/21 - 30	16600				145	7.4	12 0.60	5.6 0.46	9.0 0.39	1.7 0.04	0 0.00	71 1.16	7.0 0.15	5.9 0.17	1.4 0.02	0.1 0.01	0.0	21	Fe 0.02 Color 6	99[f] 100[g]	26	53	0			
12/1 - 3	20300				140	7.1	13 0.65	4.9 0.40	8.7 0.38	1.2 0.03	0 0.00	65 1.07	8.0 0.17	6.4 0.18	1.8 0.03	0.2 0.01	0.1	20	Color 1	96[f]	26	53	0			
12/4 - 10	30900				113	7.3	11 0.55	4.4 0.36	6.0 0.26	0.9 0.02	0 0.00	57 0.93	5.8 0.12	5.6 0.16	1.9 0.03	0.2 0.01	0.0	20	Fe 0.00 Color 1	84[f] 85[g]	22	45	0			
12/11 - 16	21300				137	7.5	12 0.60	5.8 0.48	8.3 0.36	1.0 0.03	0 0.00	68 1.11	7.0 0.15	6.8 0.19	1.6 0.03	0.2 0.01	0.0	23	Fe 0.00 Color 1	99[f] 102[g]	24	54	0			
12/17 - 21	47500				106	7.3	9.7 0.48	3.6 0.30	5.2 0.23	1.4 0.04	0 0.00	50 0.82	5.4 0.11	4.2 0.12	2.1 0.03	0.0 0.00	0.1	19	Fe 0.19 Color 35 (unfiltered)	76[f]	22	39	0			
12/22 - 31 1963	34500				134	7.3	12 0.60	4.9 0.40	7.8 0.34	1.6 0.04	0 0.00	66 1.08	6.8 0.14	5.0 0.14	1.9 0.03	0.1 0.01	0.1	21	Fe 0.02 Color 12	94[f] 93[g]	25	50	0			
1/1 - 10	22800				153	7.6	13 0.65	5.7 0.47	8.8 0.38	1.6 0.04	0 0.00	72 1.18	8.4 0.17	6.4 0.18	1.1 0.02	0.3 0.02	0.0	22	Fe 0.00 Color 2	102[f] 102[g]	25	56	0			
1/11 - 20	17100				168	7.7	14 0.70	6.1 0.50	11 0.48	1.6 0.04	0 0.00	82 1.34	9.8 0.20	7.6 0.21	0.9 0.01	0.3 0.02	0.1	24	Fe 0.00 Color 2	115[f] 114[g]	28	60	0			
1/21 - 31	16800				166	7.5	14 0.70	6.0 0.49	10 0.44	1.5 0.04	0 0.00	78 1.28	9.0 0.19	7.9 0.22	1.0 0.02	0.2 0.01	0.1	23	Fe 0.00 Color 2	111[f] 114[g]	26	60	0			
2/1 - 10	71800				82	7.2	7.7 0.38	2.9 0.24	3.4 0.15	1.1 0.03	0 0.00	36 0.59	3.8 0.08	3.3 0.09	1.7 0.03	0.1 0.01	0.0	14	Fe 0.09 Color 65	56[f] 59[g]	19	31	1			

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (NO. 5)
SACRAMENTO RIVER AT FREEPORT (STA. 15b) (continued)

Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT FREEPORT (STA. 15b continued)

Date and time sampled P.S.T. 1963	Discharge in cfs AVG. M.D.	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH[b]	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
2/11 - 18	56900				135	7.4	11 / 0.55	5.7 / 0.47	6.5 / 0.28	1.2 / 0.03	0 / 0.00	64 / 1.05	6.4 / 0.13	5.8 / 0.16	2.7 / 0.04	0.2 / 0.01	0.0	20	Fe 0.07 Color 10	92[f] / 91[g]	<1	51	0			USGS
2/19 - 28	39000				149		12 / 0.60	6.7 / 0.55	7.2 / 0.31	1.1 / 0.03	0 / 0.00	74 / 1.21	6.0 / 0.12	5.4 / 0.15	4.3 / 0.07	0.1 / 0.01	0.0	24	Fe 0.17	103[f] / 96[g]	21	57	0			
3/1 - 7	27600				155	7.5	14 / 0.70	6.1 / 0.50	7.3 / 0.32	1.3 / 0.03	0 / 0.00	78 / 1.28	6.8 / 0.14	5.0 / 0.14	1.1 / 0.02	0.2 / 0.01	0.0	24	Fe 0.04 Color 6	104[f] / 100[g]	21	60	0			
3/8 - 22	16600				189	7.4	16 / 0.80	7.4 / 0.61	10 / 0.44	1.4 / 0.04	0 / 0.00	85 / 1.39	11 / 0.23	8.6 / 0.24	1.4 / 0.02	0.2 / 0.01	0.1	23	Fe 0.03 Color 6	121[f] / 123[g]	23	70	0			
3/23 - 31	35800				135	7.4	12 / 0.60	6.6 / 0.54	6.3 / 0.27	1.5 / 0.04	0 / 0.00	63 / 1.03	9.0 / 0.19	5.9 / 0.17	1.3 / 0.02	0.2 / 0.01	0.0	18	Fe 0.06 Color 25	92[f] / 93[g]	19	57	5			
4/1 - 7	47600				127	7.4	12 / 0.60	4.9 / 0.40	6.0 / 0.26	1.5 / 0.04	0 / 0.00	61 / 1.00	7.0 / 0.15	5.2 / 0.15	1.8 / 0.03	0.0 / 0.00	0.0	19	Fe 0.04 Color 28	87[f] / 87[g]	20	50	0			
4/8 - 19	71900				90	7.2	8.0 / 0.40	3.9 / 0.32	3.8 / 0.17	1.4 / 0.04	0 / 0.00	44 / 0.72	6.0 / 0.12	3.0 / 0.08	2.1 / 0.03	0.0 / 0.00	0.0	16	Fe 0.01 Color 36	66[f] / 70[g]	18	36	0			
4/20 - 30	59600				117	7.4	10 / 0.50	5.6 / 0.46	5.4 / 0.23	1.2 / 0.03	0 / 0.00	60 / 0.98	4.0 / 0.08	3.5 / 0.10	1.5 / 0.02	0.0 / 0.00	0.0	21	Fe 0.03 Color 15	82[f] / 81[g]	19	48	0			
5/1 - 10	47700				113	7.7	11 / 0.55	4.1 / 0.34	5.1 / 0.22	0.8 / 0.02	0 / 0.00	57 / 0.93	5.2 / 0.11	4.1 / 0.12	1.1 / 0.02	0.2 / 0.01	0.1	19	Fe 0.04 Color 6	79[f] / 80[g]	19	45	0			
5/11 - 20	43800				115	7.4	12 / 0.60	5.2 / 0.43	5.4 / 0.23	0.8 / 0.02	0 / 0.00	57 / 0.93	6.8 / 0.14	5.1 / 0.14	1.0 / 0.02	0.1 / 0.01	0.1	20	Fe 0.03 Color 5	85[f] / 80[g]	18	52	5			
5/21 - 31	39800				113	7.6	10 / 0.50	4.1 / 0.34	6.1 / 0.27	0.5 / 0.01	0 / 0.00	54 / 0.89	7.0 / 0.15	4.5 / 0.13	1.1 / 0.02	0.2 / 0.01	0.0	18	Fe 0.02 Color 5	79[f] / 79[g]	24	42	0			
6/1 - 5	28600				143	7.1	11 / 0.55	5.6 / 0.46	9.0 / 0.39	1.2 / 0.03	0 / 0.00	62 / 1.02	9.6 / 0.20	6.5 / 0.18	1.9 / 0.03	0.3 / 0.02	0.1	18	Fe 0.04 Color 12	94[f] / 93[g]	27	50	0			
6/6 - 20	17200				190	7.2	14 / 0.70	7.2 / 0.59	13 / 0.57	1.4 / 0.04	0 / 0.00	78 / 1.28	12 / 0.25	11 / 0.31	3.1 / 0.05	0.1 / 0.01	0.1	20	Fe 0.02 Color 7	120[f] / 120[g]	30	64	0			
6/21 - 29	13400				184	7.4	13 / 0.65	7.5 / 0.62	12 / 0.52	1.4 / 0.04	0 / 0.00	79 / 1.29	12 / 0.25	10 / 0.28	1.7 / 0.03	0.2 / 0.01	0.1	21	Fe 0.02 Color 6	118[f] / 117[g]	28	64	0			
		STATION DISCONTINUED 6/30/63																								

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-4-H 6-61 200 LPC

TABLE D-3

ANALYSES OF SURFACE WATER

[illegible] VALLEY REGION (NO. 5)

SACRAMENTO RIVER [illegible] CITY (STA. [illegible])

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
							Mineral constituents in parts per million / equivalents per million																			
[illegible]																										[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]					[illegible]	[illegible]		[illegible]	Median [illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]					[illegible]	[illegible]		[illegible]	Maximum [illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]					[illegible]	[illegible]	[illegible]	[illegible]	Minimum [illegible]	
[illegible]																										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]					[illegible]		[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]					[illegible]	[illegible]		[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]					[illegible]	[illegible]		[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-D-H 6-61 200 SPO

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT KESWICK (STA. 12)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Mineral constituents in equivalents per million: Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
1962																										
10/2 0730	6,100	52	10.7	97	105	7.1 / 7.6	— / 0.84		5.2 / 0.23		0 / 0.00	59 / 0.97	4.0 / 0.08	4.2 / 0.12			0.0					24	[illegible]	0	1	Median [illegible]	
11/2 0915	6,090	54	9.5	88	112	7.6 / 7.7	— / 0.85		5.8 / 0.25		1 / 0.00	62 / 1.02	3.[illegible] / 0.06	2.0 / 0.06			0.2					22	[illegible]	0	[illegible]	Maximum [illegible]	
12/10 1330	8,040	53	8.3	76	123	7.4 / 8.1	— / 0.90		7.6 / 0.33		0 / 0.00	66 / 1.08	5.0 / 0.10	2.6 / 0.07			0.1					27	[illegible]	0	[illegible]	Minimum [illegible]	
1963																										
1/3 1545	11,000	51	10.1	90	124	7.2 / 8.0	— / 0.93		7.6 / 0.33		0 / 0.00	67 / 1.10	4.0 / 0.08	3.6 / [illegible].10			0.0					26	46	0	[illegible]		
2/15 1130	13,500 (D.M.)	48	10.3	[illegible]	124	7.[illegible] / 7.5	— / 0.96		7.4 / 0.32		0 / 0.00	66 / 1.08	7.0 / 0.15	5.0 / 0.00			0.0					25	[illegible]	0	[illegible]		
[illegible]5 0800	6,460 (M.D.)	48	11.1	96	117	7.[illegible] / 7.5	— / 0.90		6.3 / 0.27		0 / 0.00	64 / 1.05	2.0 / 0.10	3.2 / 0.14			0.0					23	[illegible]	0	25		
4/8 0710	4,170	50	10.2	92	109	6.4 / 7.5	— / 0.80		5.4 / 0.23		0 / 0.00	43 / 0.70	12 / 0.25	1.9 / 0.05			0.0					22	40	5	110		
5/1 0730	7,820 (M.D.)	50	10.6	96	118	7.3 / 7.6	4.2 / 0.21	8.5 / 0.70	6.2 / 0.27	1.4 / 0.05	1 / 0.30	63 / 1.03	7.0 / 0.15	6.2 / 0.06	0.6 / 0.01	0.3 / 0.02	0.0	22	PO4 0.20 As 0.00 ABS 0.00	84[f] 88[g]	22	42	[illegible]	15		
6/3 1300	8,170	46	10.4	89	109	7.[illegible] / 8.1	— / 0.88		5.6 / 0.24		0 / 0.00	58 / 0.95	6.0 / 0.12	2.5 / 0.07			0.0					21	44	0	15		
7/11 1350	10,300	54	10.7	101	107	7.0 / 7.5	— / 0.84		5.6 / 0.24		0 / 0.00	60 / 0.98	4.0 / 0.08	3.1 / 0.09			0.0					22	42	0	3		
8/5 1400	10,700 (M.D.)	51	10.3	94	100	7.3 / 7.7	— / 0.80		5.2 / 0.23		0 / 0.00	58 / 0.95	6.0 / 0.12	2.0 / 0.06			0.0					22	40	0	4		
9/12 1515	9,980 (M.D.)	52	9.8	91	103	7.2 / 8.3	10 / 0.50	4.6 / 0.38	4.6 / 0.20	0.9 / 0.02	1 / 0.03	54 / 0.89	3.0 / 0.06	2.0 / 0.06	0.3 / 0.00	0.2 / 0.01	0.0	20	Tot. alk. 52 PO4 0.00 As 0.00 ABS 0.00	74[f] 78[g]	18	44	0	2		

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-0-H 6-61 200 3P0

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER NEAR MALLARD SLOUGH (STA. 15c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N C ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by
1962																										
10/17 1045		60			249				28					40						188	49					USBR
11/14 1200		63			619				69					131						416	48					
12/20 1215		63			239									27						136						
1963																										
1/16 1220		47			13720				2208					4509						10564	64					
2/14 1530		62			325				29					43						216	39					
3/14 1110		63			306				29					39						208	41					
4/9 1050		68			252				20					23						168	35					
5/16 1245		71			155				11					16						116	31					
6/12 1430		83			185				15					20						124	35					
7/11 1330		86			1249				161					307						796	56					
8/13 1045		71			4450				697					664						2856	68					
9/10 1400		83			4877				642					1250						2668	57					

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

3250S-D-H 6-61 200 SPO

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT RIO VISTA (STA. 16)

TABLE 0-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT RIO VISTA (STA. 16)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
			ppm	%Sat			equivalents per million																			
1962	Tidal																									
10/3 0955		67	8.6	93	176	7.4 / 7.6	1.26[c]		12 / 0.52		0 / 0.00	87 / 1.43		8.5 / 0.24			0.0			113[e]	29	63	0	20	Median 230.	USGS
11/8 1145		60	7.9	79	177	7.3 / 7.9	1.26[c]		12 / 0.52		0 / 0.00	79 / 1.29		10 / 0.28			0.0			113[e]	29	63	0	30	Maximum >7000.	
12/5 1115		50	9.9	87	169	7.3 / 7.7	1.22[c]		10 / 0.44		0 / 0.00	74		8.3 / 0.23			0.2			108[e]	27	61	0	20	Minimum 2.3	
1963																										
1/8 1400		46	10.7	89	171	7.3 / 7.8	1.20[c]		12 / 0.52		0 / 0.00	78 / 1.28		7.8 / 0.22			0.1			109[e]	30	60	0	15		
2/4 1230		51	10.3	92	77	7.1 / 6.9	0.59[c]		4.6 / 0.20		0 / 0.00	33 / 0.54		4.2 / 0.12			0.1			49[e]	25	30	3	80		
3/14 1300		52	9.9	90	253	7.5 / 7.9	1.72[c]		18 / 0.78		0 / 0.00	107 / 1.75		15 / 0.42			0.0			162[e]	31	86	0	25		
4/11 1215		55	9.7	91	139	7.3 / 7.5	1.18[c]		6.9 / 0.30		0 / 0.00	67 / 1.10		6.0 / 0.17			0.1			89[e]	20	59	4	110		
5/14 1245		59	10.5	104	131	7.3 / 7.7	12 / 0.60	5.1 / 0.42	7.2 / 0.31	1.2 / 0.03	0 / 0.00	62 / 1.02	8.8 / 0.18	6.4 / 0.18	0.5 / 0.01	0.2 / 0.01	0.2	17	AS 0.00 ABS 0.0 PO_4 0.15	90[f] / 87[g]	23	51	0	60		
6/4 1045		66	8.6	92	166	7.3 / 7.8	1.15[c]		11 / 0.48		0 / 0.00	70 / 1.15		9.0 / 0.25			0.0			106[e]	29	57	0	30		
7/8 1100		70	8.8	99	185	8.0	1.31[c]		13 / 0.57		0 / 0.00	82 / 1.34		10 / 0.28			0.0			118[e]	30	66	0	20		
8/8 1030		69	8.4	93	188	7.4 / 7.9	1.28[c]		13 / 0.57		0 / 0.00	80 / 1.31		11 / 0.31			0.0			120[e]	31	64	0	20		
9/11 1120		72	7.7	88	217	7.5 / 7.5	16 / 0.80	8.0 / 0.66	16 / 0.70	1.6 / 0.04	0 / 0.00	99 / 1.62	12 / 0.25	12 / 0.34	1.8 / 0.03	0.2 / 0.01	0.0	18	AS 0.01 ABS 0.0 PO_4 0.25	135[f] / 134[g]	32	73	0	30		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropoliton Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-Hi 6-61 200 SPO

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT SNODGRASS SLOUGH (STA. 97)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH [b]	Mineral constituents in ppm / equivalents per million											Other constituents	Total dissolved solids in ppm [g]	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform MPN/ml [h]	Analyzed by [i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonates (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)				Total ppm	N C ppm			
1962																									
10/15 1315		64			62	6.6	6.2	2.8	3.0	1.2	0.0	26	8.2	4.3	1.2					72	19					USBR
11/13 1220		60			171	8.0	17	7	10	0.78	0.0	83	6.7	9	0.6					152	23					
12/26 1120		47			123	7.5	10	5.0	6.9	1.2	0.0	57	8.2	6.4	0.0					84	24					
1963																									
1/14 1400		43			173	7.9	13	5.4	12	1.2	0.0	71	12	9.9	0.0					122	30					
2/11 1215		54			137	7.4	10	5.4	7.6	1.2	0.0	51	10	7.8	0.0					108	25					
3/11 1215		56			212	8.2	16	9.2	14	13	0.0	88	16	13	0.0					168	24					
4/9 1100		51			73	7.2	8.2	2.8	3.0	1.2	0.0	32	11	0.0	0.0					88	16					
5/13 1125		55			112	7.4	11	4.8	5.5	1.2	0.0	45	6.7	8.5	0.0					92	20					
6/10 1215		67			179	8.2	13	8.1	11	1.2	0.0	76	13	11	0.0					136	27					
7/8 1430		69			171	7.9	12	7.4	10	1.2	0.0	72	18	9.9	0.0					124	26					
8/12 1210		72			190	7.6	13	7.8	12	2.0	0.0	79	11	11	0.0					172	29					
9/10		70			259	7.8	11	12	17	1.6	0.0	96	12	13	0.6					184	32					

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

3250-D-H 6-61 200 JR0

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO RIVER AT TOLAND LANDING (STA. 15a)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million / equivalents per million												Total dissolved solids[g] in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (No)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfats (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents			Total ppm	N C ppm			
1962																									
10/15 1110		64			123															100					USBR
1963																									
4/8 1155		56			157															128					
5/13 1300		58			145															124					
6/12 1130		67			183															128					
7/8 1300		70			190															152					
8/13 1130		70			320															248					
9/10 1440		72			233															188					

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR), United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SACRAMENTO SLOUGH NEAR KNIGHTS LANDING (STA. 14a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										USGS
10/17 0750	FLOODED	57	8.1	78	101	7.4 / 7.2	3.74[c]		0.42		0.00	0.79		0.14			0.1				36	37	3	70	Median 146.	
11/27 0845	NOT SAMPLED																								Maximum 2,400.	
12/13 0835	FLOODED NOT SAMPLED																								Minimum <2	
1963																										
1/15 1055	595	39	12.5	95	419	7.3 / 8.1	3.15[c]		1.22		0.00	3.34		0.82			0.1				28	158	0	9		
2/19 0805	FLOODED																									
3/21 1155	198	58	9.8	95	482	8.0 / 8.0	3.70[c]		1.35		0.00	4.00		0.96			0.0				27	185	0	40		
4/16	FLOODED																									
5/14 0810	FLOODED																									
6/3 0840	879 (M.D.)	71	7.0	79	350	7.4 / 8.4	2.74[c]		0.90		0.07	3.02		0.45			0.0		Tot. alk. 185		26	137	0	150		
7/8 0650	678	74	5.9	68	531	7.4 / 7.6	3.64[c]		1.87		0.00	3.67		1.44			0.0				34	182	0	15		
8/6 0900	773 (M.D.)	75	6.2	73	524	7.3 / 8.5	3.74[c]		1.83		0.13	3.74		1.38			0.0		Tot. alk. 136		33	187	0	20		
9/10 0850	916	74	7.0	81	417	7.6 / 7.8	1.40	1.86	1.22	0.05	0.00	3.79	0.23	0.56	0.02	0.01	0.1	32	PO_4 0.45 As 0.00 ABS 0.00	259[f] 251[g]	27	163		20		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0/0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-D-H 6-61 200 SPO

TABLE D-3
ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (NO. 5)
SAN JOAQUIN RIVER AT ANTIOCH (STA. 28)

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT ANTIOCH (STA. 28)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform MPN/ml	Analyzed by i
			ppm	%Sat		a / b	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents				Total ppm	N.C. ppm		
1962	TIDAL																								
10/3 1110		69	7.0	78	971	7.4 / 7.6	2.80 c		146 / 6.35		0 / 0.00	102 / 1.67		222 / 6.26			0.1			534 e	69	140	56	45	Median 62.	USGS
11/13 1010		62	7.2	74	304	7.2 / 7.9	1.56 c		31 / 1.35		0 / 0.00	81 / 1.33		42 / 1.18			0.0			167 e	46	78	12	25	Maximum 1300.	
12/10 1010		53	8.9	82	225	7.3 / 7.6	1.30 c		18 / 0.78		0 / 0.00	77 / 1.26		24 / 0.68			0.0			124 e	38	65	2	15	Minimum 13.	
1963																									
1/8 1235		47	9.5	81	265	7.1 / 7.5	1.50 c		22 / 0.96		0 / 0.00	76 / 1.25		31 / 0.87			0.1			146 e	39	75	13	20		
2/6 1000		53	9.1	83	240	7.2 / 7.3	1.36 c		19 / 0.83		0 / 0.00	54 / 0.89		28 / 0.79			0.1			132 e	38	68	24	30		
3/14 1145		56	9.0	86	288	7.3 / 7.5	1.64 c		25 / 1.09		0 / 0.00	79 / 1.29		32 / 0.90			0.1			158 e	40	82	17	25		
4/10 1430		60	9.4	94	280	7.3 / 7.8	1.64 c		25 / 1.09		0 / 0.00	76 / 1.25		30 / 0.85			0.2			154 e	40	82	20	100		
5/14 1145		64	8.5	89	177	7.3 / 7.7	12 / 0.60	5.8 / 0.48	13 / 0.57	1.4 / 0.04	0 / 0.00	59 / 0.97	14 / 0.29	16 / 0.45	1.9 / 0.03	0.2 / 0.01	0.1	17	PO_4 0.15	110 f / 115 g	34	54	6	70		
6/5 0745		68	7.9	87	164	7.3 / 7.6	1.01 c		14 / 0.61		0 / 0.00	52 / 0.85		17 / 0.48			0.1			90 e	38	50	7	35		
7/10 0910		71	8.2	93	767	7.7	2.24 c		101 / 4.39		0 / 0.00	74 / 1.21		167 / 4.71			0.1			422 e	66	112	51	15		
8/6 1300		73	8.2	95	1170	7.4 / 7.8	3.08 c		170 / 7.40		0 / 0.00	80 / 1.31		295 / 8.32			0.1			644 e	71	154	88	25		
9/10 0920		71	7.6	86	967	7.9 / 7.4	21 / 1.05	21 / 1.70	136 / 5.92	5.6 / 0.14	0 / 0.00	92 / 1.51	39 / 0.81	225 / 6.35	0.4 / 0.01	0.0 / 0.00	0.0	15	AS 0.00 ABS 0.0 PO_4 0.20	508 f / 535 g	67	138	63	40		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-D-H 6-61 200 SPO

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT BRANDT BRIDGE (STA. 101a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH	Mineral constituents in ppm / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm [g]	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform MPN/ml [h]	Analyzed by [i]
1962																										
11/14 1405		62			716				73					124						476	44					USBR
1963																										
4/8 1425		62			404				42					51						264	45					
5/13 1345		62			125				8.1					12						92	28					
8/12 1100		76			753				79					129						428	46					

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated

32575-6-61 6-61 200 JPO

TABLE D-3
ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (NO. 5)
SAN JOAQUIN RIVER AT BRANDT BRIDGE (STA. 101)

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT GARWOOD BRIDGE (STA. 101)

Date and time sampled P S.T	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
1962	Tidal																									
10/2 1200		72	8.2	94	806	7.9 / 7.6	3.58 c		99 / 4.31		0 / 0.00	194 / 3.18		131 / 3.70			0.1			456 e	55	179	20	4	Median 620.	USGS
11/14 1415		61	8.7	88	725	7.5 / 7.7	3.20 c		84 / 3.65		0 / 0.00	141 / 2.31		118 / 3.33			0.1			410 e	53	160	44	10	Maximum 7000.	
12/5 0955		54	8.2	76	505	7.3 / 7.8	2.20 c		55 / 2.39		0 / 0.00	93 / 1.52		79 / 2.23			0.2			286 e	52	110	34	4	Minimum 23.	
1963																										
1/8 1415		48	9.3	80	571	7.3 / 7.6	2.44 c		65 / 2.83		0 / 0.00	101 / 1.66		91 / 2.57			0.2			323 e	54	122	39	15		
2/4 1320		55	8.8	83	159	7.1 / 7.1	0.76 c		15 / 0.65		0 / 0.00	40 / 0.66		17 / 0.48			0.1			90 e	46	38	5	55		
3/12 1430		59	9.0	89	825	7.5 / 8.0	3.54 c		101 / 4.39		0 / 0.00	139 / 2.28		125 / 3.53			0.4			467 e	55	177	63	35		
4/9 1515		60	8.9	89	265	7.3 / 7.7	1.41 c		24 / 1.04		0 / 0.00	69 / 1.13		30 / 0.85			0.0			150 e	42	70	13	30		
5/13 0815		59	8.6	85	132	7.1 / 7.5	10 / 0.50	4.0 / 0.33	9.3 / 0.40	1.6 / 0.04	0 / 0.00	48 / 0.79	7.4 / 0.15	12 / 0.34	0.9 / 0.01	0.0 / 0.00	0.0	16	PO_4 0.20	85 f / 87 g	31	42	3	20		
6/4 1055		68	8.3	91	167	7.1 / 7.7	1.00 c		13 / 0.57		0 / 0.00	60 / 0.98		15 / 0.42			0.0			95 e	36	50	1	20		
7/9 1215		74	10.3	120	629	7.9 / 8.0	3.11 c		65 / 2.83		0 / 0.00	134 / 2.20		95 / 2.68			0.2			356 e	48	136	46	25		
8/7 1115		78	6.8	83	615	8.1 / 7.9	2.64 c		66 / 2.87		0 / 0.00	132 / 2.16		103 / 2.91			0.3			348 e	52	132	24	40		
9/11 1200		76	10.4	124	809	8.3 / 7.4	47 / 2.35	17 / 1.37	91 / 3.96	5.2 / 0.13	0 / 0.00	180 / 2.95	31 / 0.65	130 / 3.67	4.4 / 0.07	0.1 / 0.01	0.2	19	AS 0.01 ABS 0.1 PO_4 1.3	434 f / 409 g	51	186	38	30		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT JERSEY POINT (STA. 28b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Total[g] dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents				Total ppm	N.C. ppm			
1962																									
10/17 1030		61			203														156						USBR
1963																									
4/8 1345					300														200						
5/13 1130		61			163														124						
6/11 1430		69			151														132						
7/9 1155		71			202														148						
8/12 1135		71			467														324						
9/10 1225		71			390														236						

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT MOSSDALE BRIDGE (STA. 102)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962	Tidal																									
10/8 1235		67	8.9	96	765	7.5 / 7.5	3.60[c]		89 / 3.87		0 / 0.00	166 / 2.72		122 / 3.44			0.1			433[e]	52	130	44	9	Median 620.	USGS
11/14 1330		60	8.3	83	720	7.3 / 7.8	3.19[c]		89 / 3.87		0 / 0.00	132 / 2.16		122 / 3.44			0.1			408[e]	55	159	51	8	Maximum >7000.	
12/10 1425		52	8.8	80	462	7.3 / 7.7	2.00[c]		48 / 2.09		0 / 0.00	81 / 1.33		73 / 2.06			0.1			261[e]	51	100	34	5	Minimum 6.2	
1963																										
1/7 1010		47	9.8	83	646	7.3 / 7.7	2.78[c]		72 / 3.13		0 / 0.00	112 / 1.84		116 / 3.27			0.4			366[e]	53	139	47	7		
2/4 1410		54	9.4	87	161	7.1 / 6.9	0.78[c]		15 / 0.65		0 / 0.00	40 / 0.66		17 / 0.48			0.1			91[e]	45	39	6	75		
3/12 0915		56	8.9	85	929	7.3 / 7.9	3.84[c]		111 / 4.83		0 / 0.00	137 / 2.25		144 / 4.06			0.4			526[e]	56	192	80	6		
4/9 1415		59	9.1	90	267	7.3 / 7.5	1.34[c]		26 / 1.13		0 / 0.00	64 / 1.05		33 / 0.93			0.0			151[e]	46	67	15	35		
5/13 0915		59	8.9	88	114	7.1 / 7.9	7.6 / 0.38	4.1 / 0.34	8.4 / 0.37	1.5 / 0.04	0 / 0.00	45 / 0.74	6.0 / 0.12	8.5 / 0.24	1.0 / 0.02	0.2 / 0.01	0.1	16	PO_4 0.20	75[f] / 81[g]	33	36	0	60		
6/4 1150		65	8.8	93	132	7.1 / 7.4	0.72[c]		11 / 0.48		0 / 0.00	38 / 0.62		15 / 0.42			0.0			75[e]	40	36	5	15		
7/9 0815		72	9.8	112	639	7.9 / 7.5	2.88[c]		66 / 2.87		0 / 0.00	128 / 2.10		102 / 2.88			0.2			362[e]	50	144	39	25		
8/7 1045		78	12.9	157	953	8.4 / 8.4	4.47[c]		105 / 4.57		6 / 0.20	160 / 2.62		172 / 4.85			0.3			539[e]	51	224	83	150		
9/10 0930		73	9.1	105	819	8.0 / 7.6	46 / 2.30	18 / 1.48	94 / 4.09	4.2 / 0.11	0 / 0.00	171 / 2.80	49 / 1.02	136 / 3.84	1.3 / 0.02	0.1 / 0.01	0.1	25	AS 0.01 ABS 0.0 PO_4 0.45	458[f] / 488[g]	51	189	49	20		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

SAN JOAQUIN RIVER AT SAN ANDREAS LANDING (STA. 112b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH [b]	Mineral constituents in ppm equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm [g]	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform MPN/ml [h]	Analyzed by [i]
1962																										
10/15 1210		64			89	7.1	10	2.8	4.6	1.2	0.0	29	9.6	5.7	3.1					84	20					USBR
11/13 1335		60			196	7.7	13	10	15	1.2	0.0	70	13	17	0.6					144	31					
12/26 1010		48			182	7.5	13	6.5	14	1.2	0.0	59	14	18	0.0					124	34					
1963																										
1/14 1110		47			289	7.7	18	8.8	23	1.2	0.0	70	24	35	1.2					214	38					
2/11 1030		54			404	7.5	12	7.4	14	1.6	0.0	45	23	19	1.9					156	32					
3/11 1015		53			226	8.1	16	9.9	15	1.6	0.0	77	19	17	0.0					160	29					
4/8 1030		56			120	7.8	11	5.0	5.3	1.6	0.0	46	14	4.3	0.0					116	18					
5/13 1140		50			104	7.6	10	3.9	5.1	1.2	0.0	43	14	7.1	0.6					80	21					
6/10 1100		70			163	8.0	12	6.6	10	1.2	0.0	63	13	11	0.6					128	28					
7/8 1140		70			168	8.0	12	6.7	9.9	1.6	0.0	68	16	11	3.7					124	27					
8/12 1350		74			206	7.7	13	8.2	15	2.3	0.0	74	15	18	0.0					136	33					
9/10 1330		72			247	7.5	12	10	17	1.6	0.0	89	12	17	0.6					196	33					

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-6-61 6-61 2.0 SPO

TABLE D-3
ANALYSES OF SURFACE WATER
CENTRAL VALLEY REGION (NO. 5)

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO.5)

STOCKTON SHIP CHANNEL ON RINDGE ISLAND (STA. 100)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962	Tidal																									
10/8 0955		69	7.1	79	765	7.5 / 7.5	3.40[c]		4.09		0.00	2.88		3.64			0.2			425[e]	55	170	26	9	Median 230.	USGS
11/14 1210		62	8.4	86	692	7.5 / 7.7	3.09[c]		3.61		0.00	2.38		3.27			0.0			385[e]	54	154	35	40	Maximum >7000.	
12/4 1300		55	9.6	90	723	7.5 / 7.8	3.15[c]		3.87		0.00	2.21		3.41			0.2			402[e]	55	158	47	6	Minimum 13.	
1963																										
1/7 1145		46	8.7	73	591	7.1 / 7.4	2.62[c]		2.78		0.00	1.54		2.76			0.1			329[e]	51	131	54	7		
2/5 1215		56	7.3	70	316	7.2 / 7.2	1.56[c]		1.30		0.00	1.08		1.21			0.1			176[e]	45	78	24	60		
3/11 1315		60	8.0	80	499	7.3 / 7.5	2.17[c]		2.48		0.00	1.46		2.03			0.2			277[e]	53	108	35	20		
4/8 1330		60	8.2	82	326	7.1 / 7.2	1.57[c]		1.39		0.00	1.16		1.18			0.1			181[e]	47	79	21	20		
5/6 1315		69	8.4	93	255	7.3 / 7.3	16 / 0.80	6.8 / 0.56	24 / 1.04	2.0 / 0.05	0 / 0.00	73 / 1.20	23 / 0.48	28 / 0.79	1.4 / 0.02	0.1 / 0.01	0.1	14	PO_4 0.25	151[f] / 155[g]	42	68	8	30		
6/4 0830		66	8.4	90	143	7.3 / 7.5	0.79[c]		12 / 0.52		0 / 0.00	40 / 0.66		16 / 0.45			0.0			80[f]	40	40	7	20		
7/8 1330		75	8.2	97	358	/ 8.0	1.98[c]		34 / 1.48		0 / 0.00	78 / 1.28		53 / 1.50			0.2			199[g]	44	96	32	200		
8/5 1315		78	7.7	94	327	7.3 / 7.9	1.78[c]		30 / 1.30		0 / 0.00	90 / 0.48		44 / 1.24			0.4			182[e]	42	89	15	30		
9/11 0950		76	5.6	67	504	7.5 / 7.6	29 / 1.45	12 / 1.00	50 / 2.18	3.6 / 0.09	0 / 0.00	122 / 2.00	13 / 0.27	77 / 2.17	2.0 / 0.03	0.0 / 0.00	0.1	6.6	AS 0.01 ABS 0.1 PO_4 0.25	253[f] / 287[g]	46	122	22	35		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

STONY CREEK AT BLACK BUTTE DAM SITE (STA. 13c)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million — Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonates (CO_3)	Bicarbonate (HCO_3)	Sulfates (SO_4)	Chlorides (Cl)	Nitrates (NO_3)	Fluorides (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
1962																										USGS
10/18 0940	[illegible]	60	10.0	100	329	8.0 / 7.7	— / 2.70		16 / 0.70		0 / 0.00	147 / 2.41		22 / 0.62			0.2				21	135	14	35		
11/28 1025	15	51	10.7	96	317	7.7 / 7.6	— / 2.48		16 / 0.70		0 / 0.00	121 / 1.98		28 / 0.79			0.0				22	124	25	40		
12/19 1105	400	52	11.4	104	387	7.6 / 8.3	— / 2.81		23 / 1.00		2 / 0.07	137 / 2.25		43 / 1.21			0.1		Tot. alk. 141		26	141	25	35		
1963																										
1/16 1128	3	39	13.7	104	389	8.1 / 8.3	— / 3.28		18 / 0.78		4 / 0.13	172 / 2.82		26 / 0.73			0.1		Tot. alk. 180		19	164	16	5		
2/8 [illegible]	1,140	54	11.4	106	262	7.8 / 8.4	— / 2.16		13 / 0.57		0 / 0.00	125 / 2.05		16 / 0.45			0.1				21	108	6	60		
[illegible]	135	55	11.6	109	306	8.4 / 8.7	— / 2.56		14 / 0.61		3 / 0.10	139 / 2.28		18 / 0.51			0.1		Tot. alk. 146		19	128	8	5		
4/17 [illegible]	[illegible]	49	12.2	117	227	8.[illegible] / 8.[illegible]	— / 1.92		2.2 / 0.40		0 / 0.00	116 / 1.90		8.6 / 0.24			0.0				17	96	1	210		
5/13 1340	326	66	10.1	[illegible]	259	7.[illegible] / 8.[illegible]	28 / 1.40	10 / 0.82	11 / 0.48	1.0 / 0.03	3 / 0.10	129 / 2.11	13 / 0.27	10 / 0.28	1.5 / 0.02	0.2 / 0.01	0.0	14	Tot. alk. 139 PO4 0.05	156[f] 156[g]	18	111	0	20		
6/6 1315	188	65	[illegible]	[illegible]	250	8.[illegible] / [illegible]	[illegible]		11 / 0.48		2 / 0.07	128 / 2.10		11 / 0.31			0.1		Tot. alk. 128		18	110	2	20		
7/9 [illegible]	150	70	8.8	99	270	8.1 / 8.[illegible]	— / 2.34		11 / 0.48		2 / 0.07	143 / 2.34		11 / 0.31			0.0		Tot. alk. 147		17	117	0	45		
8/7 [illegible]	154	76	8.8	105	293	7.8 / 8.[illegible]	— / 2.08		11 / 0.48		0 / 0.00	161 / 2.64		11 / 0.31			0.0				15	131	0	5		
9/11 1430	154	73	[illegible]	104	322	8.[illegible] / [illegible]	18 / 1.40	24 / 1.98	13 / 0.57	1.1 / [illegible]	0 / 0.00	178 / 2.92	9.0 / 0.19	14 / 0.39	1.2 / 0.02	0.1 / 0.01	[illegible]	14	PO4 0.00 As 0.00 ABS 0.00	182[f] 185[g]	16	143	0	55		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in ppm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

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TABLE D-3
ANALYSES OF SURFACE WATER

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

STONY CREEK NEAR HAMILTON CITY (STA. 13a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
1962																										USGS
10/18 0830	39	59	10.9	97	348	8.1 / 8.3	— / 2.95		17 / 0.74		0 / 0.00	146 / 2.72		3 / 0.05			0.1				20	147	11	15	Median 23.	
11/[illegible] 0930	DRY																								Maximum 1,300.	
12/[illegible] 1015	[illegible]	51	11.2	[illegible]	393	7.2 / 8.4	— / 3.86		26 / 1.13		4 / 0.13	140 / 2.29		43 / 1.21			0.1		Tot. alk. 147		28	144	23	30	Minimum 1.3	
1963																										
1/16 1045	DRY																									
2/19 1530	[illegible]	57	10.5	101	[illegible]	7.1 / 7.9	— / 2.10		13 / 0.57		0 / 0.00	127 / 2.08		16 / 0.45			0.1				31	104	5	120		
3/[illegible] [illegible]	210	53	11.4	101	331	7.8 / 8.0	— / 2.80		15 / 0.65		0 / 0.00	159 / 2.61		20 / 0.56			0.0				19	140	[illegible]	15		
4/17 [illegible]	4,600	59	10.[illegible]	[illegible]	255	6.9 / 7.8	— / 1.96		9.5 / 0.41		0 / 0.00	120 / 1.97		9.4 / 0.27			0.0				17	89	1	240		
5/15 0825	710	63	9.4	[illegible]	[illegible]	7.7 / 8.2	28 / 1.40	11 / 0.90	11 / 0.48	0.6 / 0.02	0 / 0.00	138 / 2.26	14 / 0.29	6.2 / 0.17	0.2 / 0.00	0.1 / 0.01	0.2	11	PO_4 0.10 As 0.00 ABS 0.00	[illegible] / 157	17	115	[illegible]	[illegible]		
6/3 1410	1.[illegible]	68	[illegible]	102	[illegible]	6.4 / 6.4	— / 2.08		13 / 0.57		4 / 0.13	151 / 2.47		14 / 0.37			0.1		Tot. alk. 155		18	134	4	1		
7/8 1045	28	72	8.8	102	329	7.4 / 8.3	— / 1.94		14 / 0.61		2 / 0.07	175 / 2.87		15 / 0.42			0.0		Tot. alk. 147		17	147	[illegible]	[illegible]		
8/6	DRY																									
9/11	DRY																									

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0/0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-D-H 6-61 200 SPO

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. [illegible])

THOMES CREEK NEAR MOUTH (STA. [illegible])

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen % Sat	Specific conductance (micromhos at 25°C)	pH a/b	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO₃)	Bicarbonate (HCO₃)
[illegible]												
[illegible]/1	DRY											
[illegible]/1	[illegible].0	[illegible]	[illegible]	[illegible]	[illegible]	7.4 / 7.7	[illegible][c]		6.1 / 0.27		0 / 0.00	134 / 2.20
[illegible]/10	19	51	11.1	99	178	7.[illegible] / 7.[illegible]	1.[illegible]3[c]		[illegible].0 / .17		0 / 0.00	9[illegible] / 1.5[illegible]
[illegible]												
[illegible] 1410	[illegible]0	52	11.[illegible]	10[illegible]	21[illegible]	7.[illegible] / [illegible]	2.04[c]		[illegible] / 0.[illegible]3		0 / 0.00	120 / 1.97
[illegible]/11 [illegible]	1,500	53	11.[illegible]	101	155	7.[illegible] / 7.[illegible]	1.40[c]		2.5 / 0.11		0 / 0.00	83 / 1.36
[illegible]	150	55	10.[illegible]	10[illegible]	[illegible]54	7.9 / 8.3	2.4[illegible][c]		5.0 / 0.22		[illegible] / 0.10	13[illegible] / 2.18
[illegible]/5 [illegible]43	200	55	10.5	99	189	7.7 / [illegible]	1.75[c]		[illegible].4 / 0.19		0 / 0.00	100 / 1.64
5/3 13[illegible]	300	60	10.0	101	152	7.7 / 7.[illegible]	21 / 1.05	4.5 / 0.37	3.5 / 0.15	0.9 / 0.02	0 / 0.00	84 / 1.38
6/6 14[illegible]0	100	74	8.[illegible]	[illegible]	228	7.[illegible] / --	2.20[c]		[illegible] / 0.21		3 / 0.10	13[illegible] / [illegible]
7/11 0845	[illegible]	71	[illegible].3	[illegible]4	26[illegible]	[illegible]	[illegible].59[c]		[illegible].6 / 0.24		5 / 0.17	140 / 2.29
8/9 1100	2	73	7.8	91	[illegible]77	[illegible]	2.86[c]		6.2 / 0.27		7 / 0.23	157 / 2.57
[illegible]/13	DRY											

Date and time sampled PST	Sulfate (SO₄)	Chloride (Cl)	Nitrate (NO₃)	Fluoride (F)	Boron (B)	Silica (SiO₂)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as CaCO₃ Total ppm	Hardness as CaCO₃ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
[illegible]														[illegible]
[illegible]/1														
[illegible]/1		5.6 / 0.16			0.0				10	116	[illegible]	[illegible]		
[illegible]/10		4.0 / 0.11			[illegible].0				9	82		[illegible]		
[illegible]														
[illegible] 1410		6.[illegible] / 0.18			0.0				10	102	4	1		
[illegible]/11 [illegible]		1.8 / 0.0[illegible]			0.0				7	7[illegible]	[illegible]	80		
[illegible]		4.[illegible] / 0.13			0.0		Tot. alk. 139		8	12[illegible]	[illegible]	1[illegible]		
[illegible]/5 [illegible]43		2.[illegible] / 0.06			0.1				[illegible]	87	[illegible]	14[illegible]		
5/3 13[illegible]	10 / 0.21	1.[illegible] / 0.03	0.8 / 0.01	0.[illegible] / 0.01	[illegible].0	10	PO₄ .0[illegible]	93[f] 87[g]	[illegible]	71	[illegible]	[illegible]		
6/6 14[illegible]0		3.0 / 0.08			0.1		Tot. alk. 13[illegible]		[illegible]	110	3	4		
7/11 0845		4.9 / 0.14			0.1		Tot. alk. 150		8	12[illegible]	[illegible]	1		
8/9 1100		[illegible] / 0.08			0.2		Tot. alk. 171		9	143	3	3		
[illegible]/13														

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR), as indicated.

TABLE D-3
ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (No. 5)

THOMES CREEK NEAR PASKENTA (STA. 13d)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform MPN/ml	Analyzed by i
1962																										USGS
[illegible]	[illegible]	52	10.9	99	140	7.2 / 7.5	— / 1.24 c		4.5 / 0.20		0 / 0.00	73 / 1.20		4.2 / 0.12			0.1				14	62	2	2		
[illegible]	[illegible]	45	11.0	98	119	7.2 / 7.7	— / 1.09 c		3.5 / 0.15		0 / 0.00	61 / 1.00		3.8 / 0.11			0.0				12	53	3	30		
[illegible]	[illegible]	44	11.1	98	136	7.2 / 7.7	— / 1.24 c		3.6 / 0.16		0 / 0.00	74 / 1.21		2.2 / 0.06			0.0				11	62	1	40		
[illegible]																										
[illegible]	[illegible]	36	13.8	100	222	7.4 / 8.1	— / 1.90 c		6.6 / 0.29		0 / 0.00	114 / 1.87		6.6 / 0.18			0.0				13	99	6	1		
[illegible]	[illegible]	50	11.2	99	178	7.7 / 7.9	— / 1.48 c		4.4 / 0.19		0 / 0.00	93 / 1.52		2.8 / 0.08			0.0				10	83	7	70		
[illegible]	[illegible]	49	11.3	98	[illegible]	7.7 / 7.9	— / 2.26 c		5.2 / 0.23		3 / 0.10	117 / 1.92		5.0 / 0.14			0.0		Tot. alk. 100		9	111	11	15		
[illegible]	1,1[illegible]	[illegible]	12.1	102	15[illegible]	7.3 / 8.3	— / 1.38 c		3.4 / 0.14		0 / 0.00	81 / 1.33		1.1 / 0.03			0.0				9	69	3	23[illegible]		
[illegible]	[illegible]	42[illegible]	61	9.[illegible]	1[illegible]	7.4 / 8.3	22 / 1.10	3.6 / 0.30	2.3 / 0.10	0.6 / 0.02	0 / 0.00	64 / 1.05	11 / 0.23	3.4 / 0.10	0.4 / 0.01	0.[illegible] / 0.[illegible]	0.0	13	PO_4 0.02	96[f] 95[g]	10	70	5	30		
[illegible]	[illegible]	50	66	8.4	98	1[illegible]	8.0 / 8.5	— / 1.91 c		4.6 / 0.20		0 / 0.00	101 / 1.66		3.8 / 0.11			0.0		Tot. alk. 100		9	95	7	2		
[illegible]	[illegible]	46	68	9.1	102	3.7	8.1 / 8.4	— / 2.90 c		7.[illegible] / 0.3[illegible]		2 / 0.17	150 / 2.46		7.4 / 0.21			0.0		Tot. alk. 160		11	145	14	6		
[illegible]	[illegible]	1[illegible]	79	9.2	115	333	8.1 / 8.4	— / 3.04 c		11 / 0.48		6 / 0.20	133 / 2.28		14 / 0.39			0.0		Tot. alk. 151		14	152	28	1		
[illegible]	[illegible]	[illegible]	75	1[illegible].8	155	365	8.4 / 8.4	39 / 1.95	14 / 1.17	1[illegible] / 0.57	1.[illegible] / 0.03	4 / 0.13	134 / 2.20	3[illegible] / 0.01	24 / 0.[illegible]	0.5 / 0.01	0.1 / 0.01	0.1	10	Tot. alk. 142 PO_4 0.[illegible] As 0.[illegible] ABS 0.00	211[f] 216[g]	15	156	40	1		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-D-B 6-61 200 SPO

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO.5)

YUBA RIVER AT MARYSVILLE (STA. 21)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in ppm: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/1 1255	197	72	9.0	103	127	7.3 / 7.7	1.14[c]		3.7 / 0.16		0 / 0.00	67 / 1.10		1.0 / 0.03			0.0			89[e]	12	57	2	4	Median 2.3	USGS
11/1 1115	787	58	10.0	98	74	7.1 / 7.3	0.65[c]		2.3 / 0.10		0 / 0.00	36 / 0.59		1.8 / 0.05			0.0			51[e]	13	32	2	40	Maximum 2400.	
12/3 1230	17400	52	11.6	105	82	7.3 / 7.3	0.70[c]		3.0 / 0.13		0 / 0.00	41 / 0.67		2.2 / 0.06			0.0			57[e]	16	35	1	50	Minimum 0.23	
1963																										
1/2 1120	1300	44	12.0	98	79	7.2 / 7.7	0.70[c]		2.4 / 0.10		0 / 0.00	40 / 0.66		1.2 / 0.03			0.1			55[e]	12	35	2	35		
2/5 1045	11700	50	11.7	103	51	7.1 / 7.2	0.42[c]		2.0 / 0.09		0 / 0.00	26 / 0.43		2.0 / 0.06			0.0			35[e]	18	21	0	40		
3/5 1300	1660	52	11.7	106	82	7.3 / 7.8	0.72[c]		1.7 / 0.07		0 / 0.00	44 / 0.72		1.5 / 0.04			0.1			57[e]	9	36	0	8		
4/2 1300	4650	54	11.4	99	79	7.3 / 7.7	0.68[c]		2.7 / 0.12		0 / 0.00	41 / 0.67		1.2 / 0.03			0.1			55[e]	15	34	0	20		
5/9 1200	9530	55	11.4	107	55	7.3 / 7.5	7.0 / 0.35	1.3 / 0.11	2.0 / 0.09	0.2 / 0.01	0 / 0.00	29 / 0.48	0.0 / 0.00	0.9 / 0.03	0.3 / 0.00	0.0 / 0.00	0.0	12	AS 0.00 ABS 0.0 PO_4 0.05	38[f] 41[g]	16	23	0	50		
6/3 1130	4750	61	10.2	103	51	7.3 / 7.6	0.46[c]		1.9 / 0.08		0 / 0.00	27 / 0.44		0.2 / 0.01			0.0			35[e]	15	23	1	25		
7/9 0940	434	67	8.9	96	94	7.8	0.82[c]		2.9 / 0.13		0 / 0.00	46 / 0.75		5.8 / 0.16			0.0			65[e]	14	41	3	15		
9/13 0920	238	69	8.7	96	129	7.6	15 / 0.75	3.5 / 0.29	3.2 / 0.14	1.0 / 0.03	0 / 0.00	65 / 1.07	2.8 / 0.06	1.2 / 0.03	5.6 / 0.09	0.1 / 0.01	0.0	16	AS 0.01 ABS 0.0 PO_4 0.10	80[f] 82[g]	12	52	0	2		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc (TTL); or California Department of Water Resources (DWR), as indicated.

3205-64 6-61 200 40

TABLE D-3

ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

YUBA RIVER NEAR SMARTVILLE (STA. 21a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents			Total ppm	N.C. ppm		
			ppm	%Sat			equivalents per million																		
1962																									
10/1 1105	408	72	8.6	99	116	7.0 / 7.7	1.06[c]		3.2 / 0.14		0 / 0.00	69 / 1.13		1.5 / 0.04			0.0			79[e]	12	53	0	3	Median 2.3	USGS
11/1 1255	1010	57	10.2	99	58	6.8 / 7.2	0.50[c]		1.8 / 0.08		0 / 0.00	30 / 0.49		0.8 / 0.02			0.0			40[e]	14	25	0	30	Maximum 230.	
12/3 1315	13600	51	11.7	106	83	7.3 / 7.4	0.71[c]		2.6 / 0.11		0 / 0.00	43 / 0.70		2.0 / 0.06			0.0			57[e]	13	36	1	15	Minimum 0.13	
1963																									
1/9 1000	870	43	12.0	97	75	7.1 / 7.7	0.63[c]		2.2 / 0.10		0 / 0.00	39 / 0.64		1.5 / 0.04			0.0			51[e]	14	32	0	2		
2/5 1300	9730	51	11.7	106	51	7.1 / 7.3	0.43[c]		2.0 / 0.09		0 / 0.00	26 / 0.43		2.2 / 0.06			0.0			35[e]	17	22	1	30		
3/6 0945	1570	50	11.9	106	74	7.3 / 7.9	0.63[c]		2.2 / 0.10		0 / 0.00	39 / 0.64		1.0 / 0.03			0.1			51[e]	14	32	0	8		
4/3 1000	3230	50	11.6	103	77	7.3 / 7.7	0.66[c]		2.0 / 0.09		0 / 0.00	40 / 0.66		1.5 / 0.04			0.1			53[e]	12	33	0	25		
5/1 0945	6050	55	11.5	109	71	7.1 / 7.7	8.0 / 0.40	2.6 / 0.21	2.2 / 0.10	0.6 / 0.02	0 / 0.00	38 / 0.62	4.0 / 0.08	1.0 / 0.03	0.8 / 0.01	0.2 / 0.01	0.0	15	PO_4 0.00	53[f] 52[g]	14	30	0	4		
6/5 0800	2770	59	10.4	104	50	7.1 / 7.6	0.42[c]		1.8 / 0.08		0 / 0.00	27 / 0.44		1.2 / 0.03			0.0			34[e]	16	21	0	20		
7/9 1100	765	67	9.2	100	77	/ 7.7	0.66[c]		2.2 / 0.10		0 / 0.00	41 / 0.67		0.6 / 0.02			0.0			53[e]	13	33	0	1		
9/13 1030	553	74	8.8	103	116	/ 7.9	18 / 0.90	3.3 / 0.27	3.2 / 0.14	1.0 / 0.03	0 / 0.00	68 / 1.11	6.0 / 0.12	2.0 / 0.06	1.1 / 0.02	0.0 / 0.00	0.0	16	AS 0.00 ABS 0.0 PO_4 0.00	84[f] 84[g]	10	59	3	1		

e Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-D-H 6-61 200 JPO

TABLE 1.

ANALYSES OF SURFACE WATER

LAURENTIAN HEIGHTS (RD. 15)

CARBON RIVER, EAST FORK NOAH MARKLEEVILLE (: PA. 11:)

TABLE D-4

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

CARSON RIVER, EAST FORK NEAR MARKLEEVILLE (STA. 115)

Date and time sampled P.S.T.	Discharge in cfs	Tsmp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
1962																										
10/4 1055	63	51	9.2	101	142	7.5 / 7.9	0.91[c]		14 / 0.61		0 / 0.00	74 / 1.21		4.0 / 0.11			0.0			105[e]	40	46	10	5	Median 5.	USGS
11/8 1205	68	43	10.6	104	123	7.5 / 7.8	0.86[c]		8.6 / 0.37		0 / 0.00	64 / 1.05		4.4 / 0.12			0.1			91[e]	30	43	0	1	Maximum 230.	
12/13 1020	56	33	11.7	98	131	7.3 / 7.9	0.91[c]		9.4 / 0.41		0 / 0.00	66 / 1.08		4.8 / 0.14			0.1			97[e]	31	45	0	1	Minimum 0.62	
1963																										
1/10 1035		33	11.6	98	138	7.3 / 8.1	0.84[c]		10 / 0.44		0 / 0.00	70 / 1.15		5.8 / 0.16			0.1			102[e]	34	42	0	2		
2/14 1400		42	10.7	103	129	7.4 / 7.8	0.94[c]		7.8 / 0.34		0 / 0.00	65 / 1.07		2.8 / 0.08			0.1			95[e]	27	47	0	4		
3/7 1500		44	10.5	104	129	7.4 / 8.0	0.92[c]		7.2 / 0.31		0 / 0.00	66 / 1.08		4.1 / 0.12			0.1			95[e]	25	46	0	3		
4/4 0930		40	10.9	102	153	7.4 / 7.9	1.10[c]		9.4 / 0.41		0 / 0.00	76 / 1.25		3.2 / 0.09			0.2			113[e]	27	55	0	1		
5/2 0930		44	10.4	103	108	7.4 / 7.8	12 / 0.60	2.6 / 0.21	5.7 / 0.25	1.2 / 0.03	0 / 0.00	57 / 0.93	6.0 / 0.12	2.4 / 0.07	0.2 / 0.00	0.0 / 0.00	0.0	18	PO_4 0.10	76[f] 82[g]	23	41	0	20		
6/6 0815		39	10.7	99	71	6.9 / 7.6	0.53[c]		3.7 / 0.16		0 / 0.00	38 / 0.62		1.4 / 0.04			0.0			52[e]	23	27	0	1		
7/11 0730		48	9.5	100	52	7.3 / 7.5	0.30[c]		2.8 / 0.12		0 / 0.00	27 / 0.44		0.9 / 0.03			0.0			38[e]	24	19	0	15		
9/12 0945		56	8.4	98	91	7.5 / 7.8	9.7 / 0.48	2.3 / 0.19	4.8 / 0.21	1.1 / 0.03	0 / 0.00	45 / 0.74	3.4 / 0.07	1.2 / 0.03	1.2 / 0.02	0.1 / 0.01	0.0	18	AS 0.01 ABS 0.0 PO_4 0.05	64[f] 67[g]	23	34	0	3		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL), or California Department of Water Resources (DWR); as indicated.

32505-D4 0-61 2M JP

TABLE D-4

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

CARSON RIVER, WEST FORK AT WOODFORDS (STA. 115a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/4 1010	18	49	9.2	99	77	7.5 / 7.7	0.64[c]		4.5 / 0.20		0 / 0.00	43 / 0.70		1.5 / 0.04			0.0			63[e]	24	32	0	3	Median 23.	USGS
11/8 1120	29	42	10.5	103	72	7.3 / 7.6	0.56[c]		3.4 / 0.15		0 / 0.00	40 / 0.66		1.4 / 0.04			0.0			59[e]	21	28	0	30	Maximum 230.	
12/13 0950	19M.D.	35	11.4	100	74	7.1 / 7.7	0.57[c]		3.5 / 0.15		0 / 0.00	42 / 0.69		0.8 / 0.02			0.0			60[e]	21	28	0	0.8	Minimum 0.6	
1963																										
1/10 0955	17	33	11.5	98	78	7.1 / 7.7	0.60[c]		4.2 / 0.18		0 / 0.00	43 / 0.70		2.2 / 0.06			0.0			64[e]	23	30	0	5		
2/14 1245	No Gage	37	11.4	104	65	7.3 / 7.5	0.49[c]		3.4 / 0.15		0 / 0.00	36 / 0.59		0.5 / 0.01			0.0			53[e]	23	24	0	1		
3/7 1415		40	10.7	102	67	7.3 / 7.7	0.51[c]		2.7 / 0.12		0 / 0.00	37 / 0.61		1.5 / 0.04			0.0			55[e]	19	26	0	2		
4/4 1015		40	10.8	103	69	7.3 / 7.7	0.53[c]		2.9 / 0.13		0 / 0.00	39 / 0.64		1.5 / 0.04			0.0			56[e]	20	26	0	2		
5/2 0900		40	10.9	104	54	7.1 / 7.5	7.2 / 0.36	0.7 / 0.06	2.4 / 0.10	0.7 / 0.02	0 / 0.00	30 / 0.49	2.0 / 0.04	1.0 / 0.03	0.3 / 0.00	0.0 / 0.00	0.0	15	PO_4 0.00	44[f] 46[g]	19	21	0	8		
6/6 0730		40	10.7	102	55	6.9 / 7.4	0.45[c]		2.4 / 0.10		0 / 0.00	31 / 0.51		0.8 / 0.02			0.0			45[e]	18	22	0	2		
7/11 0645		51	9.1	101	53	7.1 / 7.6	0.42[c]		2.1 / 0.09		0 / 0.00	28 / 0.46		1.0 / 0.03			0.1			42[e]	18	21	0	5		
9/12 0845	59	55	8.2	96	74	7.3 / 7.7	5.5 / 0.27	3.5 / 0.29	3.2 / 0.14	1.6 / 0.04	0 / 0.00	39 / 0.64	2.4 / 0.05	0.2 / 0.01	1.3 / 0.02	0.1 / 0.01	0.0	14	AS 0.01 ABS 0.0 PO_4 0.05	51[f] 53[g]	19	28	0	25		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated.

3250-DH 6-61 200 SP0

TABLE D-4

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

LAKE TAHOE AT BIJOU (STA. 39)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in parts per million						Mineral constituents in equivalents per million						Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents				Total ppm	N.C. ppm		
1962																									
10/4 0750		52	7.8	89	97	7.3 / 7.6	0.68[c]		6.8 / 0.30		0 / 0.00	56 / 0.92		1.8 / 0.08			0.1			63[e]	31	34	0	10	Median 0.23	USGS
11/8 0845		45	9.1	94	95	7.4 / 7.9	0.68[c]		6.1 / 0.27		0 / 0.00	54 / 0.89		1.8 / .05			0.0			62[e]	28	34	0	1	Maximum 23.	
12/13 0855		39	9.8	93	96	7.3 / 7.8	0.66[c]		5.7 / 0.25		0 / 0.00	55 / 0.90		3.1 / 0.09			0.0			63[e]	27	33	0	1	Minimum <0.045	
1963																									
1/10 0800		38	9.4	88	95	7.3 / 7.8	0.66[c]		6.4 / 0.28		0 / 0.00	54 / 0.89		1.8 / 0.05			0.0			62[e]	30	33	0	1		
2/13 1530		41	10.1	99	65	7.2 / 7.3	0.42[c]		4.4 / 0.19		0 / 0.00	35 / 0.57		2.0 / 0.06			0.0			42[e]	31	21	0	1		
3/6 1600		42	10.3	102	93	7.4 / 8.0	0.64[c]		5.5 / 0.24		0 / 0.00	53 / 0.87		2.0 / 0.06			0.1			61[e]	27	32	0	1		
4/3 1530		44	10.2	104	90	7.3 / 7.9	0.60[c]		5.0 / 0.22		0 / 0.00	50 / 0.82		2.8 / 0.08			0.0			59[e]	27	30	0	2		
5/2 0700		45	9.5	98	92	7.3 / 8.0	9.2 / 0.46	2.3 / 0.19	5.7 / 0.25	2.0 / 0.05	0 / 0.00	52 / 0.85	1.0 / 0.02	2.0 / 0.06	0.6 / 0.01	0.2 / 0.01	0.0	14	PO_4 0.00	63[f] 60[g]	26	32	0	1		
6/6 0600		51	7.9	89	78	7.1 / 8.0	0.52[c]		5.2 / 0.23		0 / 0.00	43 / 0.70		2.0 / 0.06			0.0			51[e]	31	26	0	20		
		Station Discontinued 6/30/63																							

a Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-D-B 6-62 200 SPO

TABLE D-4

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

LAKE TAHOE AT TAHOE CITY (STA. 38)

Date and time sampled P S T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH	Mineral constituents in parts per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform MPN/ml	Analyzed by i
							Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents							
			ppm	%Sat			equivalents per million														Total ppm	N C ppm			
1962																									
10/3		58	8.2	100	98	6.9	Ca+Mg 0.68		7.2		0	74		4.2			0.1			66[e]	31	34	0	9	Median	UEGS
1020						7.7			0.31		0.00	0.89		0.12										0.62	
11/7		50	10.7	119	97	7.5	Ca+Mg 0.68		6.4		0	56		1.5			0.0			65[e]	29	34	0	1	Maximum	
1340						7.9			0.28		0.00	0.92		0.04										23.	
12/12		36	9.8	89	100	7.3	Ca+Mg 0.71		6.3		0	58		3.2			0.0			67[e]	28	36	0	2	Minimum	
1005						7.5			0.27		0.00	0.95		0.09										<0.04	
1963																									
1/9		45	9.6	99	95	7.3	Ca+Mg 0.66		6.4		0	54		2.2			0.0			64[e]	30	33	0	1		
1340						7.8			0.28		0.00	0.89		0.06											
2/13		43	10.1	102	95	7.3	Ca+Mg 0.67		6.0		0	54		2.0			0.0			64[e]	28	34	0	1		
1400						7.5			0.26		0.00	0.89		0.06											
3/6		41	10.6	104	96	7.3	Ca+Mg 0.66		5.7		0	54		2.0			0.0			65[e]	27	33	0	1		
1415						7.9			0.25		0.00	0.89		0.06											
4/3		39	10.4	99	96	7.1	Ca+Mg 0.67		5.2		0	54		2.8			0.0			65[e]	26	34	0	3		
1345						7.9			0.23		0.00	0.89		0.08											
5/1		50	9.9	110	94	7.3	9.8	2.3	6.1	1.6	0	52	2.2	1.1	0.3	0.2	0.0	14	As 0.00 Ahs 0.0	64[f]	27	34	0	5		
1415						7.9	Ca+Mg 0.49	0.19	0.27	0.04	0.00	0.85	0.05	0.03	0.00	0.01			PO_4 0.00	69[g]					
6/5		50	9.4	104	94	7.3	Ca+Mg 0.68		6.3		0	54		3.0			0.0			63[e]	28	34	0	3		
1200						8.2			0.27		0.00	0.89		0.08											
7/12		57	8.6	104	88	7.4	Ca+Mg 0.63		4.6		0	44		3.6			0.0			59[e]	24	32	0	1		
0915						7.7			0.20		0.00	0.72		0.10											
9/13		59	7.4	92	92	7.5	8.6	2.6	5.5	2.1	0	50	1.0	2.0	0.5	0.2	0.0	12	As 0.00 Ahs 0.0	60[f]	26	32	0	1		
0930						7.8	Ca+Mg 0.43	0.21	0.24	0.05	0.00	0.82	0.02	0.06	0.01	0.01			PO_4 0.15	63[g]					

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR), United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc (TTL); or California Department of Water Resources (DWR), as indicated.

TABLE D-4

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

LAKE TAHOE AT TAHOE VISTA (STA. 37)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a b	Mineral constituents in parts per million							equivalents per million						Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfats (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluorids (F)	Boron (B)	Silica (SiO_2)	Other constituents				Total ppm	N C ppm		
1962																										
10/3 1110		60	8.1	102	97	6.0 / 7.8	— / 0.72		6.7 / 0.29		0 / 0.00	54 / 0.89		3.4 / 0.10			0.2			65[e]	29	36	0	15	Median 0.62	USGS
11/7 1420		55	9.1	107	95	8.2 / 8.2	— / 0.69		6.3 / 0.27		0 / 0.00	55 / 0.90		1.5 / 0.04			0.0			64[e]	28	34	0	1	Maximum 2.3	
12/12 1040		47	9.4	100	94	7.3 / 7.9	— / 0.70		6.4 / 0.28		0 / 0.00	54 / 0.89		3.5 / 0.10			0.0			63[e]	29	35	0	1	Minimum <0.045	
1963																										
1/9 1415		45	10.2	106	98	7.7 / 7.9	— / 0.70		6.4 / 0.28		0 / 0.00	56 / 0.92		2.2 / 0.06			0.0			66[e]	29	35	0	1		
2/13 1430		44	10.4	106	93	7.4 / 7.7	— / 0.66		5.9 / 0.26		0 / 0.00	52 / 0.85		1.8 / 0.05			0.0			63[e]	28	33	0	1		
3/6 1445		44	10.3	105	99	7.4 / 8.0	— / 0.73		5.5 / 0.24		0 / 0.00	58 / 0.95		1.2 / 0.03			0.1			67[e]	25	36	0	1		
4/3 1430		46	10.3	108	96	7.5 / 8.0	— / 0.67		5.5 / 0.24		0 / 0.00	54 / 0.89		2.0 / 0.06			0.0			65[e]	26	34	0	1		
5/1 1500		50	9.7	108	94	7.3 / 7.8	9.4 / 0.47	2.4 / 0.20	5.9 / 0.26	2.0 / 0.05	0 / 0.00	53 / 0.87	1.0 / 0.02	1.5 / 0.04	0.7 / 0.01	0.2 / 0.01	0.0	14	PO_4 0.0	63[f] / 60[g]	27	34	0	1		
6/5 1245		50	9.4	104	95	7.3 / 8.0	— / 0.69		6.0 / 0.26		0 / 0.00	53 / 0.87		2.4 / 0.07			0.0			64[e]	27	35	0	2		
		Station Discontinued 6/30/63																								

o Field pH.

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH), City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc (TTL), or California Department of Water Resources (DWR); as indicated.

TABLE D-4

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

SUSAN RIVER AT SUSANVILLE (STA. 17b)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
[illegible]																										USGS
10/17 [illegible]	[illegible]	4[illegible]	10.7	86	[illegible]8	7.[illegible] / 7.[illegible]	[illegible]c		4.[illegible] / 0.1[illegible]		[illegible] / 0.00	5[illegible] / 0.82		0.8 / 0.02			0.0				20	36	[illegible]	[illegible]	Median 23.	
11/[illegible] 15[illegible]	44	40	11.5	[illegible]8	121	7.[illegible] / 8.[illegible]	1.00c		4.5 / [illegible]		0 / 0.00	76 / 1.25		1.5 / 0.04			[illegible]				16	53	0	1	Maximum 230.	
12/1[illegible] 16[illegible]	[illegible]	44	10.9	89	93	7.[illegible] / 8.1	[illegible].79c		3.7 / 0.16		0 / 0.00	56 / 0.92		1.2 / 0.03			0.0				17	40	0	[illegible]	Minimum 2.3	
1962																										
1/1[illegible] 154[illegible]	[illegible]2	33	11.[illegible]	76	132	[illegible] / 8.[illegible]	1.17c		4.8 / 0.21		0 / 0.00	83 / 1.36		1.8 / 0.05			0.0				15	58	0	[illegible]		
2/1[illegible] [illegible]52	122	43	10.[illegible]	88	103	[illegible] / 7.[illegible]	0.[illegible]c		4.2 / 0.18		0 / 0.00	64 / 1.05		1.2 / 0.03			0.0				17	[illegible]4	[illegible]	[illegible]		
3/[illegible] 112[illegible]	[illegible]	39	1[illegible]	93	117	7.7 / 8.[illegible]	1.05c		3.9 / 0.17		0 / 0.00	73 / 1.20		1.2 / 0.03			0.0				14	53	0	1		
4/16 1[illegible]25	[illegible]42	35	11.9	99	88	7.4 / 7.9	0.76c		3.5 / [illegible].15		[illegible] / 0.00	54 / 0.8[illegible]		0.8 / 0.02			0.0				16	3[illegible]	0	[illegible]		
5/14 0650	215	[illegible]6	10.3	100	84	7.4 / 7.[illegible]	[illegible].8 / [illegible].49	2.9 / [illegible]	3.3 / [illegible].14	0.7 / 0.0[illegible]	0 / 0.00	50 / 0.82	1.[illegible] / 0.02	1.0 / 0.03	0.3 / 0.00	[illegible] / [illegible]	0.0	22	PO_4 [illegible]	66[f] 69[g]	16	36	0	[illegible]		
6/5 0730	101	53	9.0	95	95	[illegible] / [illegible]	[illegible]c		3.4 / 0.15		0 / 0.00	59 / 0.97		1.0 / 0.03			0.0				14	48	0	[illegible]		
7/1[illegible] 0650	120	62	8.1	97	58	[illegible] / 7.[illegible]	0.50c		2.2 / 0.10		0 / 0.00	35 / 0.57		1.2 / 0.03			0.0				17	25	0	[illegible]		
8/8 1615	5	74	7.2	97	161	7.4 / 8.1	1.46c		5.4 / 0.23		0 / 0.00	10[illegible] / 1.69		0.8 / 0.02			[illegible].0				14	73	[illegible]	[illegible]		
9/12 0740	[illegible]	56	8.9	99	172	7.6 / 8.[illegible]	17 / 0.85	8.6 / 0.71	5.5 / 0.24	1.8 / 0.05	0 / 0.00	110 / 1.80	1.0 / 0.02	0.8 / 0.02	0.4 / 0.01	0.1 / 0.01	0.0	32	PO_4 0.10 As [illegible] ABS 0.00	124[f] 120[g]	13	78	[illegible]	[illegible]		

a Field pH

b Laboratory pH.

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

32505-D-H 6-61 200 SPO

TABLE D-4

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

TRUCKEE RIVER NEAR FARAD (STA. 53)

Date and time sampled PST	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million / equivalents per million											Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)				Total ppm	N.C. ppm			
1962																									
10/5 0920	390	50	9.1	97	93	7.5 / 7.5	8.3 / 0.41	2.6 / 0.21	5.1 / 0.22	1.6 / 0.04	0 / 0.00	46 / 0.75	1.5 / 0.03	2.0 / 0.06	0.13 / 0.02	0.1 / 0.00	0.08	19	PO_4 0.02 Color 0 NH_4 0.08	63[f] / 69[g]	25	31	0	3.8	Median 19.	USGS
11/9 1115	484	45	9.9	99	76	7.5 / 7.9	7.4 / 0.37	2.1 / 0.17	4.4 / 0.19	1.4 / 0.04	0 / 0.00	39 / 0.64	0.6 / 0.01	3.0 / 0.08	0.0 / 0.00	0.1 / 0.00	0.05	17	PO_4 0.17 Color 5 NH_4 0.00	55[f] / 63[g]	25	27	0		Maximum 7000.	
12/14 1055	601	41	10.9	103	83	7.3 / 7.8	8.0 / 0.40	2.4 / 0.20	4.7 / 0.20	1.3 / 0.03	0 / 0.00	43 / 0.70	1.0 / 0.02	2.0 / 0.06	0.2 / 0.00	0.0 / 0.00	0.04	18	PO_4 0.00 Color 10	59[f] / 79[g]	24	30	0	2	Minimum 0.23	
1963																									
1/11 1045	237	32	11.9	97	105	7.4 / 7.9	10 / 0.50	2.9 / 0.24	6.5 / 0.28	1.6 / 0.04	0 / 0.00	54 / 0.88	2.6 / 0.05	3.7 / 0.10	0.4 / 0.01	0.1 / 0.00	0.09	21	Color 5 PO_4 0.10 NH_4 0.00	75[f] / 79[g]	26	37	0	2		
2/15 0855	400	37	11.5	102	98	7.3 / 7.6	9.4 / 0.47	2.8 / 0.23	5.9 / 0.26	1.4 / 0.04	0 / 0.00	46 / 0.75	3.0 / 0.06	2.8 / 0.08	0.9 / 0.01	0.2 / 0.01	0.03	23	Color 20 PO_4 0.11 NH_4 0.10	72[f] / 79[g]	26	35	0	6		
3/8 0830	297	39	10.9	101	97	7.3 / 7.6	10 / 0.50	2.9 / 0.24	6.2 / 0.27	1.4 / 0.04	0 / 0.00	47 / 0.77	4.0 / 0.08	3.4 / 0.10	0.4 / 0.01	0.0 / 0.00	0.06	19	Color 20 PO_4 0.07 NH_4 0.15	70[f] / 73[g]	26	37	0	8		
4/5 0845	516	42	10.5	100	102	7.3 / 7.6	9.6 / 0.48	2.2 / 0.18	5.2 / 0.23	1.2 / 0.03	0 / 0.00	44 / 0.72	3.3 / 0.07	3.9 / 0.11	0.5 / 0.01	0.1 / 0.00	0.04	18		66[f] / 69[g]	25	33	0			
5/3 0745	1580	43	10.3	100	75	7.3 / 7.5	7.8 / 0.39	2.1 / 0.17	3.8 / 0.16	1.0 / 0.02	0 / 0.00	40 / 0.66	2.1 / 0.04	1.4 / 0.04	0.3 / 0.00	0.0 / 0.00	0.05	19	Color 20 NH_4 0.04 AS 0.00 ABS 0.01 PO_4 0.05	58[f] / 62[g]	22	28	0	9		
6/7 0730	1260	48	9.8	102	76	7.1 / 7.6	8.1 / 0.40	1.9 / 0.16	3.4 / 0.15	1.0 / 0.02	0 / 0.00	37 / 0.61	0.0 / 0.00	1.0 / 0.03	0.4 / 0.01	0.0 / 0.00	0.03	20	Color 20 PO_4 0.03 NH_4 0.00	54[f] / 54[g]	20	28	0	5		
7/12 0730	484	54	9.0	101	83	7.3 / 7.7	0.64[c]		4.0 / 0.17		0 / 0.00	43 / 0.70		2.8 / 0.08			0.0			63[e]	21	32	0	2		
8/9 1000	578	58	8.4	99	80	7.5 / 7.3	7.4 / 0.37	2.8 / 0.23	4.1 / 0.18	1.7 / 0.04	0 / 0.00	43 / 0.70	2.1 / 0.04	1.2 / 0.03	0.6 / 0.01	0.0 / 0.00	0.04	19	Color 10 PO_4 0.05 NH_4 0.00	60[f] / 65[g]	22	30	0	0.7		
9/13 0745	534	56	8.2	94	86	7.3 / 7.7	9.0 / 0.45	2.3 / 0.19	4.8 / 0.21	1.7 / 0.04	0 / 0.00	49 / 0.80	0.6 / 0.01	2.0 / 0.06	0.7 / 0.01	0.1 / 0.00	0.06	15	Color 25 NH_4 0.00 AS 0.01 ABS 0.0 PO_4 0.06	60[f] / 60[g]	24	32	0	5		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as $\frac{0.0}{0.00}$ except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service.

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP); City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-4

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

TRUCKEE RIVER NEAR TRUCKEE (STA. 52)

Date and time sampled P.S.T	Discharge in cfs	Temp in °F	Dissolved oxygen		Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in ppm — equivalents per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
			ppm	%Sat			Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents			Total ppm	N C ppm			
1962																									
10/3 0935	61	52	9.1	102	109	7.4 / 7.7	1.00[c]		7.3 / 0.32		0 / 0.00	60 / 0.98		6.6 / 0.19			0.1			78[e]	24	50	1	2	Median 6.2	USGS
11/7 1240	39	45	10.8	111	113	7.7 / 7.8	0.86[c]		5.8 / 0.25		0 / 0.00	53 / 0.87		2.5 / 0.07			0.1			81[e]	23	43	0	1	Maximum 130.	
12/12 0925	43	33	11.8	100	111	7.1 / 7.7	0.85[c]		5.3 / 0.23		0 / 0.00	51 / 0.84		4.0 / 0.11			0.0			79[e]	21	42	0	10	Minimum 0.23	
1963																									
1/9 1245	Not Rated	35	11.8	104	103	7.3 / 7.6	0.73[c]		6.4 / 0.28		0 / 0.00	54 / 0.89		2.8 / 0.08			0.0			74[e]	28	36	0	1		
2/13 1315		39	10.5	98	88	7.1 / 7.4	0.61[c]		4.8 / 0.21		0 / 0.00	37 / 0.61		4.8 / 0.14			0.0			63[e]	26	30	0	1		
3/6 1330		43	10.7	106	100	7.3 / 7.7	0.74[c]		4.5 / 0.20		0 / 0.00	46 / 0.75		2.8 / 0.08			0.0			72[e]	21	37	0	1		
4/3 1300		43	10.8	107	109	7.1 / 7.5	0.80[c]		4.4 / 0.19		0 / 0.00	48 / 0.79		4.5 / 0.13			0.0			78[e]	19	40	1	2		
5/1 1330		48	9.6	102	78	7.1 / 7.5	8.0 / 0.40	2.7 / 0.22	3.7 / 0.16	1.2 / 0.03	0 / 0.00	38 / 0.62	7.0 / 0.15	1.8 / 0.05	0.6 / 0.01	0.2 / 0.01	0.0	18	PO_4 0.00	62[f] / 55[g]	20	31	0	3		
6/5 1100		46	9.9	103	66	6.9 / 7.8	0.52[c]		3.3 / 0.14		0 / 0.00	34 / 0.56		1.6 / 0.05			0.0			47[e]	21	26	0	2		
7/12 0830		56	8.7	103	93	7.3 / 7.7	0.65[c]		5.5 / 0.24		0 / 0.00	50 / 0.82		3.2 / 0.09			0.0			66[e]	27	32	0	1		
9/13 0845		56	8.4	99	103	7.5 / 7.6	10 / 0.50	2.9 / 0.24	5.8 / 0.25	1.9 / 0.05	0 / 0.00	54 / 0.89	1.0 / 0.02	3.2 / 0.09	0.0 / 0.00	0.0 / 0.00	0.0	15	AS 0.01 ABS 0.0 PO_4 0.05	67[f] / 71[g]	24	37	0	9		

o Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS), United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS), San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR), as indicated.

32505-64 6-61 200 SPO

TABLE D-4

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

WALKER RIVER, EAST NEAR BRIDGEPORT (STA. 116a)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a/b	Mineral constituents in parts per million: Calcium (Ca)	Magnesium (Mg)	Sodium (No)	Potassium (K)	Carbonates (CO_3)	Bicarbonate (HCO_3)	Sulfates (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N C ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by[i]
1962																										
10/4 1300	80	58	7.4	92	210	8.4 / 7.6	1.56[c]		15 / 0.65		0 / 0.00	116 / 1.90		2.9 / 0.08			0.1			142[e]	29	78	0	9	Median 2.3	USGS
11/8 1430	16	48	9.8	107	220	8.2 / 7.7	1.54[c]		14 / 0.61		0 / 0.00	122 / 2.00		2.6 / 0.07			0.1			148[e]	28	77	0	8	Maximum 62.	
12/13 1220	11	40	10.6	103	223	7.6 / 8.0	1.62[c]		15 / 0.65		0 / 0.00	124 / 2.03		43 / 0.12			0.1			150[e]	29	81	0	3	Minimum <0.045	
1963																										
1/10 1245	10	40	10.0	98	245	7.5 / 7.9	1.80[c]		16 / 0.70		0 / 0.00	138 / 2.26		5.0 / 0.14			0.1			165[e]	28	90	0	5		
2/14 1015	167	40	10.1	98	200	7.5 / 7.6	1.34[c]		14 / 0.61		0 / 0.00	105 / 1.72		3.5 / 0.10			0.1			135[e]	31	67	0	11		
3/7 1130	9.6	43	10.5	107	201	7.5 / 8.0	1.31[c]		15 / 0.65		0 / 0.00	104 / 1.70		2.7 / 0.08			0.1			135[e]	33	65	0	7		
4/4 1230	70	46	9.8	104	215	7.7 / 7.8	1.42[c]		16 / 0.70		0 / 0.00	112 / 1.84		4.2 / 0.12			0.1			145[e]	33	71	0	5		
5/2 1230	134	52	9.3	107	226	7.5 / 8.3	24 / 1.20	3.9 / 0.32	16 / 0.70	4.1 / 0.10	5 / 0.17	110 / 1.80	9.0 / 0.19	3.5 / 0.10	1.7 / 0.03	0.4 / 0.02	0.2	19	PO_4 0.20	141[f] 150[g]	30	76	0	10		
6/6 1045	447	52	8.3	96	220	7.5 / 7.8	1.47[c]		16 / 0.70		0 / 0.00	117 / 1.92		3.9 / 0.11			0.1			148[e]	32	73	0	2		
7/11 0930	488	63	7.8	103	141	8.1 / 8.0	1.02[c]		9.3 / 0.40		0 / 0.00	71 / 1.16		1.4 / 0.04			0.2			95[e]	28	51	0	10		
9/12 1145	239	65	6.4	86	160	8.3 / 7.6	19 / 0.95	2.1 / 0.17	10 / 0.44	3.1 / 0.08	0 / 0.00	83 / 1.36	8.2 / 0.17	1.0 / 0.03	4.5 / 0.07	0.4 / 0.02	0.0	8.9	AS 0.01 ABS 0.0 PO_4 0.45	98[f] 105[g]	27	56	0	5		

o Field pH.

b Laboratory pH

c Sum of calcium and magnesium in epm.

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves.

f Determined by addition of analyzed constituents.

g Gravimetric determination.

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD); Metropolitan Water District of Southern California (MWD); Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH), City of Long Beach, Department of Public Health (LBDPH); Terminal Testing Laboratories, Inc. (TTL); or California Department of Water Resources (DWR); as indicated.

TABLE D-4

ANALYSES OF SURFACE WATER

LAHONTAN REGION (NO. 6)

WALKER RIVER, WEST NEAR COLEVILLE (STA. 116)

Date and time sampled P.S.T.	Discharge in cfs	Temp in °F	Dissolved oxygen ppm	Dissolved oxygen %Sat	Specific conductance (micromhos at 25°C)	pH a / b	Mineral constituents in ppm — Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ NC ppm	Turbidity in ppm	Coliform[h] MPN/ml	Analyzed by i
							ppm equivalents per million																			
1962																										
10/4 1210	42	47	9.5	104	125	7.5 / 8.1	1.00[c]		2.6 / 0.42		0 / 0.00	68 / 1.11		4.0 / 0.11			0.1			84[e]	30	50	0	3	Median 5.	USGS
11/8 1330	44	43	10.7	110	110	7.4 / 7.9	0.71[c]		8.6 / 0.37		0 / 0.00	59 / 0.97		3.5 / 0.10			0.0			74[e]	34	35	0	2	Maximum 7000.	
12/13 1130'	37MD	35	11.1	101	152	7.3 / 8.1	0.86[c]		15 / 0.65		0 / 0.00	79 / 1.29		4.0 / 0.11			0.1			103[e]	43	43	0	1	Minimum 0.12	
1963																										
1/10 1150	18	33	10.9	96	243	7.5 / 8.1	1.00[c]		32 / 1.39		0 / 0.00	118 / 1.93		9.4 / 0.27			0.3			164[e]	58	50	0	3		
2/14 1100	114	35	11.2	102	99	7.3 / 7.7	0.70[c]		6.2 / 0.27		0 / 0.00	50 / 0.82		1.2 / 0.03			0.0			67[e]	28	35	0	1		
3/7 1245	92	40	10.9	108	105	7.3 / 8.0	0.73[c]		6.7 / 0.29		0 / 0.00	57 / 0.93		2.7 / 0.08			0.0			71[e]	28	36	0	3		
4/4 1400	95	50	9.3	106	123	7.6 / 8.0	0.86[c]		7.3 / 0.32		0 / 0.00	68 / 1.11		2.5 / 0.07			0.1			83[e]	27	43	0	6		
5/2 1330	266	50	9.2	104	75	7.3 / 7.6	10 / 0.50	1.1 / 0.09	5.8 / 0.17	0.8 / 0.02	0 / 0.00	41 / 0.67	3.0 / 0.06	1.0 / 0.03	0.0 / 0.00	0.0 / 0.00	0.0	10	PO_4 0.00	50[f] 53[g]	22	30	0	7		
6/6 0945	899	39	10.7	104	51	6.7 / 7.5	0.40[c]		2.4 / 0.10		0 / 0.00	28 / 0.46		1.0 / 0.03			0.0			34[e]	20	20	0	2		
7/11 1030	860	48	9.7	107	33	7.1 / 7.4	0.26[c]		1.6 / 0.07		0 / 0.00	18 / 0.30		0.5 / 0.01			0.0			22[e]	21	13	0	10		
9/12 1300	95	57	8.1	101	118	7.7 / 7.9	14 / 0.70	1.9 / 0.16	7.0 / 0.30	0.8 / 0.02	0 / 0.00	62 / 1.02	6.4 / 0.13	1.2 / 0.03	1.2 / 0.02	0.1 / 0.01	0.0	12	AS 0.01 ABS 0.0 PO_4 0.10	76[f] 76[g]	25	43	0	3		

a Field pH

b Laboratory pH

c Sum of calcium and magnesium in epm

d Iron (Fe), aluminum (Al), arsenic (As), copper (Cu), lead (Pb), manganese (Mn), zinc (Zn), and hexavalent chromium (Cr^{+6}), reported here as 0.0 / 0.00 except as shown.

e Derived from conductivity vs TDS curves

f Determined by addition of analyzed constituents.

g Gravimetric determination

h Annual median and range, respectively. Calculated from analyses of duplicate monthly samples made by California Department of Public Health, Division of Laboratories, or United States Public Health Service

i Mineral analyses made by United States Geological Survey, Quality of Water Branch (USGS); United States Department of the Interior, Bureau of Reclamation (USBR); United States Public Health Service (USPHS); San Bernardino County Flood Control District (SBCFCD), Metropolitan Water District of Southern California (MWD), Los Angeles Department of Water and Power (LADWP), City of Los Angeles, Department of Public Health (LADPH); City of Long Beach, Department of Public Health (LBDPH), Terminal Testing Laboratories, Inc (TTL), or California Department of Water Resources (DWR), as indicated.

325S-6-H 6-61 200 SPO

TABLE D-5

SPECTROGRAPHIC ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

Station	Sta No	Date 1963	Constituents in parts per billion																
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
American River at Nimbus Dam	22a	5-15	87	1.3*	1.3*	3.3*	1.3**	1.3*	3.3*	23	6.7*	1.3*	3.3*	1.3*	2.3	3.3*	1.3*	1.3*	6.7*
		9-12	8.0	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	6.1	13*	0.67*	3.3*	0.67**	0.67**	3.3*	1.3*	0.67*	13*
American River at Sacramento	22	5-15	97	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	23	6.7*	1.3*	3.3*	1.3*	2.4	3.3*	1.3*	1.3*	6.7*
		9-12	7.3	1.3*	0.67*	3.3*	3.3**	3.3*	3.3*	5.8	13*	0.67*	3.3*	0.67**	0.67**	3.3*	1.3*	0.67*	13*
Bear River near Wheatland	78	5-9	36	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	23	6.7*	1.3*	3.3**	1.3*	6.7	3.3*	1.3*	1.3**	6.7*
		9-13	12	1.3*	0.67*	3.3*	2.9	3.3*	3.3*	9.3	13*	0.67*	3.3*	0.67**	2.3	3.3*	1.3*	4.4	13*
Cache Creek near Capay	80	5-8	27	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	6.1	6.7*		3.3**	1.3*	3.7	3.3*	1.3*	5.6	6.7*
		9-11	8.7	1.3*	0.67*	3.3*	2.0	3.3*	3.3*	5.8	13*	0.67*	3.3*	0.67**	2.8	3.3*	1.3*	6.1	13*
Cache Creek near Lower Lake	42	5-8	87	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	10	6.7*	1.3*	3.3*	1.3*	2.5	3.3*	1.3*	7.3	6.7*
		9-11	13	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	12	13*	0.67*	3.3*	0.67**	2.3	3.3*	1.3*	6.7	13*
Calaveras River near Stockton	16b	5-6	119	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	11	6.7*	1.3*	3.3	1.3*	2.4	3.3*	1.3*	9.3	6.7*
		9-11	18	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	15	13*	0.67*	3.3*	0.67**	2.4	3.3*	1.3*	13	13*
Clear Lake at Lakeport	41	5-8	73	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	8.0	6.7*	1.3*	3.3*	1.3*	2.2	3.3*	1.3*	3.3	6.7*
		9-11	147	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	38	13*	0.67*	3.3*	0.67*	2.8	3.3*	14	9.3	13*
Cosumnes River at McConnell	94a	5-15	45	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	33	6.7*	1.3*	3.3*	1.3*	1.3*	3.3*	8.7	6.7	6.7*
Delta Cross Channel near Walnut Grove	98	5-14	43	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	23	6.7*	1.3*	3.3*	1.3*	1.3*	3.3*	1.3*	8.0	6.7*
		9-11	14	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	17	13*	0.67*	3.3*	0.67**	1.8	3.3*	6.7	11	13*
Feather River, Middle Fork near Merrimac	19b	9-12	6.7	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	4.1	13*	0.67*	3.3*	0.67**	1.9	3.3*	1.3*	3.1	13*
Feather River at Nicolaus	20	5-9	130	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	12	6.7*	1.3*	27	1.3*	1.8	3.3*	1.3*	1.3*	6.7*
		9-13	13	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	6.7	13*	0.67*	3.3*	0.67**	1.7	3.3*	1.3*	6.3	13*
Feather River, North Fork at Big Bar	19a	9-13	3.3	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	9.3	13*	0.67*	3.3*	0.67**	2.1	3.3*	1.3*	4.1	13*
Feather River near Oroville	19	5-9	119	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	15	6.7*	1.3*	19	1.3*	2.5	3.3*	1.3*	1.3*	6.7*
		9-12	79	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	51	13*	0.67*	3.3*	0.67**	2.3	3.3*	15	8.7	13*
Feather River, South Fork below Ponderosa Dam	19c	9-12	4.4	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	11	13*	0.67*	3.3*	0.67*	0.67**	3.3*	1.3*	0.67*	13*
Mokelumne River near Woodbridge	23	5-7	227	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	27	6.7*	1.3*	19	1.3*	1.3*	3.3*	8.7	1.3*	6.7*
		9-11	19	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	24	13*	0.67*	3.3*	0.67*	1.5	3.3*	1.3*	3.7	13*
Old River at Mandeville Island	112	5-7	60	1.3*	1.3*	3.3*	1.3**	1.3*	3.3*	39	6.7*	1.3*	3.3*	1.3*	3.1	3.3*	1.3*	10	6.7*
		9-10	87	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	29	13*	0.67*	3.3*	0.67**	1.9	3.3*	10	16	13*
Pit River near Canby	17a	5-13	1130	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	72	6.7*	1.3*	21	1.3*	4.5	3.3*	37	18	6.7*
		9-12	1330	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	100***	13*	0.67*	3.3**	0.67**	3.8	3.3*	46	29	13*
Putah Creek near Winters	81	5-14	15	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	7.3	6.7*	1.3*	3.3*	1.3*	2.9	3.3*	1.3*	7.3	6.7*
		9-11	8.0	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	13	13*	0.67*	3.3*	0.67**	2.9	3.3*	1.3*	5.8	13*
Sacramento River at Bend	12c	5-3	49	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	25	6.7*	1.3*	3.3*	1.3*	1.3*	3.3*	1.3*	6.5	6.7
		9-12	45	1.3*	0.67*	3.3*	3.3**	3.3*	3.3*	27	13*	0.67*	3.3*	0.67*	1.0	3.3*	9.3	7.3	13*

Note: For all stations the following results were also reported in May 1963: Silver (Ag) 5.0*

* Results are less than the amount indicated.
** Results are equal to but slightly less than the amount indicated.
*** Results are greater than the amount indicated.

TABLE D-5

SPECTROGRAPHIC ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

Station	Sta No	Date 1963	Constituents in parts per billion																
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Sacramento River at Colusa	13b	5-14	157	1.3*	1.3*	3.3*	1.3*	1.3*	29	32	6.7*	1.3*	3.3*	1.3*	2.8	3.3*	7.3	8.0	6.7*
		9-10	45	1.3*	0.67*	3.3**	3.3*	3.3*	3.3*	28	13*	0.67*	3.3*	0.67**	1.0	3.3*	8.0	9.3	13*
Sacramento River above Colusa Trough	14b	5-14	19	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	27	6.7*	1.3*	3.3*	1.3*	3.3	3.3*	1.3*	11	6.7*
		9-10	28	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	18	13*	0.67*	3.3*	0.67**	0.67**	3.3*	1.3*	11	13*
Sacramento River at Freeport	15b	5-16	150	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	21	6.7*	1.3*	3.3*	1.3*	1.3*	3.3*	1.3*	9.3	6.7*
		9-11	23	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	15	13*	0.67*	3.3*	0.67**	2.3	3.3*	1.3*	12	13*
Sacramento River near Hamilton City	13	5-15	217	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	41	6.7*	1.3*	3.3*	1.3*	2.6	3.3*	9.3	6.5	6.7*
		9-10	70	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	23	13*	0.67*	3.3*	0.67**	1.0	3.3*	8.0	9.3	13*
Sacramento River at Keswick	12	5-1	197	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	43	6.7*	1.3*	3.3*	1.3*	2.5	3.3*	13	8.7	6.7*
		9-12	163	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	38	13*	0.67*	3.3*	0.67**	1.4	3.3*	10	27	13*
Sacramento River at Rio Vista	16	5-14	247	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	21	6.7*	1.3*	3.3*	1.3*	1.3*	3.3*	1.3*	8.7	6.7*
		9-11	37	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	23	13*	0.67*	3.3*	0.67**	2.6	3.3*	1.3*	14	13*
Stony Creek near Hamilton City	13a	5-15	43	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	13	6.7*	1.3*	3.3*	1.3*	1.3*	3.3*	1.3*	1.3*	6.7*
Yuba River at Marysville	21	5-9	79	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	15	6.7*	1.3*	28	1.3*	1.3*	3.3*	1.3*	1.3*	6.7*
		9-13	8.7	1.3*	0.67*	3.3*	3.3**	3.3*	3.3*	6.0	13*	0.67*	3.3*	0.67**	0.67**	3.3*	1.3*	0.67*	13*

Note: For all stations the following results were also reported in May 1963: Silver (Ag) 5.0*

* Results are less than the amount indicated.

** Results are equal to but slightly less than the amount indicated.

TABLE D-5

SPECTROGRAPHIC ANALYSES OF SURFACE WATER

CENTRAL VALLEY REGION (NO. 5)

TABLE D-6

SPECTROGRAPHIC ANALYSES OF SURFACE WATER

LAHONTON REGION (NO. 6)

Station	Sta No	Date 1963	Constituents in parts per billion																
			Aluminum (Al)	Beryllium (Be)	Bismuth (Bi)	Cadmium (Cd)	Cobalt (Co)	Chromium (Cr)	Copper (Cu)	Iron (Fe)	Gallium (Ga)	Germanium (Ge)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)	Lead (Pb)	Titanium (Ti)	Vanadium (V)	Zinc (Zn)
Lake Tahoe at Tahoe City	38	5-1	65	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	7.3	6.7*	1.3*	3.3*	6.4	1.3*	3.3*	1.3*	1.3*	6.7*
		9-13	5.5	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	4.0	13*	0.67*	3.3*	3.0	1.5	3.3*	1.3*	2.4	13*
Truckee River near Farad	53	5-3	157	1.3*	1.3*	3.3*	1.3*	1.3*	3.3*	24	6.7*	1.3*	3.3*	1.3*	1.3*	3.3*	1.3*	1.3**	6.7*
		9-13	15	1.3*	0.67*	3.3*	3.3*	3.3*	3.3*	32	13*	0.67*	3.3*	0.67**	1.9	3.3*	1.3*	5.0	13*

Note: For all stations the following results were also reported in May 1963: Silver (Ag) 5.0*

* Results are less than the amount indicated.
** Results are equal to but slightly less than the amount indicated.

TABLE [illegible]

RADIOASSAYS OF SURFACE WATER

Gallup-Zuni Valley, Location (No. 1)

TABLE D-7

RADIOASSAYS OF SURFACE WATER

Central Valley Region (No. 5)

Station	Sta No	Date 1963	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
American River, Middle Fork near Auburn	22b	5-15	0.0 ± 0.2	0.0 ± 0.2	8.0 ± 4.6	3.6 ± 4.6
		9-12	0.6 ± 0.4	0.6 ± 0.4	21.7 ± 6.4	6.8 ± 6.2
American River at Nimbus Dam	22a	5-15	0.2 ± 0.2	0.0 ± 0.1	15.6 ± 4.8	12.4 ± 4.8
		9-12	0.0 ± 0.3	0.0 ± 0.3	2.6 ± 6.1	2.5 ± 6.1
American River at Sacramento	22	5-15	0.1 ± 0.2	0.1 ± 0.2	14.4 ± 4.7	14.7 ± 4.7
		9-12	0.0 ± 0.4	0.0 ± 0.3	4.2 ± 6.1	0.0 ± 6.0
American River, South Fork near Lotus	22c	5-15	0.1 ± 0.4	0.1 ± 0.4	0.0 ± 6.4	0.0 ± 6.4
		9-12	0.0 ± 0.3	0.0 ± 0.3	4.0 ± 6.4	0.0 ± 6.3
Antelope Creek near Mouth	88c	5-3	0.1 ± 0.3	0.0 ± 0.2	0.0 ± 6.3	2.9 ± 6.4
		9-12	0.2 ± 0.4	0.0 ± 0.2	0.0 ± 6.2	0.0 ± 6.2
Antelope Creek near Red Bluff	88e	5-3	0.0 ± 0.3	0.0 ± 0.3	1.1 ± 6.4	3.5 ± 6.4
		9-12	0.8 ± 0.6	0.0 ± 0.3	4.1 ± 6.2	0.0 ± 6.0
Battle Creek near Cottonwood	88b	5-3	0.0 ± 0.3	0.2 ± 0.4	0.0 ± 6.4	0.0 ± 6.4
		9-12	0.2 ± 0.3	0.7 ± 0.4	3.0 ± 6.1	5.6 ± 6.1
Bear River at Mouth	20b	5-9	0.0 ± 0.2	0.2 ± 0.2	13.4 ± 4.5	46.3 ± 5.5
Bear River near Wheatland	78	5-9	0.0 ± 0.2	0.0 ± 0.1	14.4 ± 4.9	43.2 ± 5.6
		9-13	0.0 ± 0.3	0.0 ± 0.4	2.1 ± 6.0	7.9 ± 6.1
Big Chico Creek at Chico	85a	5-14	0.0 ± 0.3	0.0 ± 0.3	0.5 ± 6.3	0.0 ± 6.3
		9-10	0.0 ± 0.2	0.1 ± 0.2	0.0 ± 6.1	0.0 ± 6.2
Cache Creek near Capay	80	5-8	0.0 ± 0.2	0.0 ± 0.1	0.0 ± 4.5	0.0 ± 5.2
		9-11	0.0 ± 0.4	0.0 ± 0.4	5.1 ± 6.1	4.7 ± 6.1

TABLE D-7

RADIOASSAYS OF SURFACE WATER

Central Valley Region (No. 5)
(Continued)

Station	Sta No	Date 1963	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Cache Creek near Lower Lake	42	5-8	0.0 ± 0.2	0.0 ± 0.2	19.4 ± 4.6	15.6 ± 5.2
		9-11	0.0 ± 0.4	0.0 ± 0.4	2.8 ± 6.0	2.0 ± 6.0
Cache Creek, North Fork near Lower Lake	79	5-8	0.0 ± 0.2	0.0 ± 0.1	2.9 ± 4.6	0.0 ± 5.5
		9-11	0.1 ± 0.3	0.0 ± 0.3	4.1 ± 6.2	1.0 ± 6.1
Calaveras River at Jenny Lind	16a	5-6	0.2 ± 0.2	0.0 ± 0.2	18.4 ± 4.5	8.5 ± 4.4
		9-11	0.5 ± 0.4	0.3 ± 0.4	9.0 ± 6.2	0.3 ± 6.0
Calaveras River near Stockton	16b	5-6	0.0 ± 0.2	0.0 ± 0.2	13.1 ± 4.4	47.8 ± 4.9
		9-11	0.0 ± 0.4	0.0 ± 0.4	4.4 ± 6.2	0.0 ± 6.0
Clear Creek near Igo	12d	5-3	0.0 ± 0.3	0.0 ± 0.3	0.8 ± 6.3	2.5 ± 6.3
		9-12	0.2 ± 0.2	0.2 ± 0.2	3.0 ± 6.1	2.2 ± 6.1
Clear Lake at Lakeport	41	5-8	0.0 ± 0.2	0.0 ± 0.2	10.3 ± 4.5	15.3 ± 5.2
		9-11	0.1 ± 0.4	0.0 ± 0.4	3.9 ± 6.1	0.0 ± 6.0
Colusa Trough near Colusa	87	5-14	0.3 ± 0.5	0.5 ± 0.6	11.4 ± 6.2	9.3 ± 6.1
		9-10	0.0 ± 0.2	0.3 ± 0.3	6.6 ± 6.2	5.6 ± 6.2
Cosumnes River at McConnell	94a	5-15	0.1 ± 0.4	0.9 ± 0.5	6.8 ± 6.2	9.3 ± 6.2
Cosumnes River at Michigan Bar	94	5-15	0.0 ± 0.2	0.0 ± 0.2	6.8 ± 4.6	0.0 ± 4.6
		9-12	0.0 ± 0.3	0.1 ± 0.3	0.0 ± 6.1	5.7 ± 6.2
Cottonwood Creek near Cottonwood	12b	5-3	0.3 ± 0.4	0.2 ± 0.4	3.3 ± 6.2	3.0 ± 6.2
		9-12	0.1 ± 0.3	0.0 ± 0.3	0.0 ± 6.0	4.6 ± 6.1
Cotton Creek below North Fork Cottonwood Creek	11a	5-3	0.1 ± 0.3	0.1 ± 0.3	3.6 ± 6.3	3.0 ± 6.3
			0.2 ± 0.4	0.0 ± 0.4	1.0 ± 6.1	0.0 ± 6.0

TABLE D-7

RADIOASSAYS OF SURFACE WATER

Central Valley Region (No. 5)
(Continued)

Station	Sta No	Date 1963	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Cottonwood Creek, South Fork above Cottonwood Creek	11b	5-3	0.1 ± 0.3	0.0 ± 0.3	3.9 ± 6.4	0.9 ± 6.4
Cow Creek near Millville	88a	5-3	0.0 ± 0.2	0.0 ± 0.3	0.0 ± 6.2	0.0 ± 6.3
		9-12	0.3 ± 0.3	0.3 ± 0.3	4.6 ± 6.1	5.2 ± 6.1
Elder Creek at Gerber	95a	5-3	0.2 ± 0.2	0.1 ± 0.2	0.0 ± 6.4	0.0 ± 6.3
Elder Creek near Paskenta	13e	5-15	0.0 ± 0.4	0.0 ± 0.4	0.0 ± 6.1	0.0 ± 6.3
		9-11	0.0 ± 0.5	0.1 ± 0.6	1.2 ± 6.2	0.0 ± 6.1
Feather River, Middle Fork near Merrimac	19b	9-12	0.1 ± 0.4	0.1 ± 0.4	4.7 ± 6.0	1.7 ± 6.0
Feather River at Nicolaus	20	5-9	0.1 ± 0.2	0.1 ± 0.2	10.1 ± 4.5	23.2 ± 5.2
		9-13	0.1 ± 0.3	0.3 ± 0.4	6.2 ± 6.2	11.8 ± 6.3
Feather River, North Fork at Big Bar	19a	9-13	0.1 ± 0.3	0.6 ± 0.4	1.1 ± 6.1	0.8 ± 6.1
Feather River at Oroville	19	5-9	0.0 ± 0.2	0.0 ± 0.2	14.0 ± 4.5	24.6 ± 5.2
		9-12	0.0 ± 0.4	0.3 ± 0.4	0.0 ± 6.1	2.1 ± 6.1
Feather River below Shanghai Bend	20a	5-9	0.0 ± 0.2	0.0 ± 0.1	16.7 ± 4.5	30.0 ± 5.5
		9-13	0.0 ± 0.3	0.3 ± 0.4	7.5 ± 6.2	10.4 ± 6.2
Feather River, South Fork below Ponderosa Dam	19c	9-12	0.2 ± 0.4	0.0 ± 0.3	0.0 ± 6.0	0.0 ± 6.0
Indian Creek near Crescent Mills	17d	5-14	0.4 ± 0.4	0.0 ± 0.4	0.0 ± 6.5	0.0 ± 6.4
		9-13	0.3 ± 0.4	0.5 ± 0.4	5.5 ± 6.0	12.7 ± 6.1
Indian Slough near Brentwood	107	5-13	0.2 ± 0.2	0.0 ± 0.2	7.2 ± 4.5	6.6 ± 4.4
		9-10	0.1 ± 0.4	0.0 ± 0.3	0.0 ± 6.1	0.0 ± 6.1

TABLE D-7

RADIOASSAYS OF SURFACE WATER

Central Valley Region (No. 5)
(Continued)

Station	Sta No	Date 1963	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Italian Slough near Mouth	106	5-7	0.0 ± 0.2	0.3 ± 0.2	8.6 ± 4.3	14.5 ± 5.2
		9-10	0.1 ± 0.4	0.0 ± 0.4	0.0 ± 6.2	0.0 ± 6.1
Little Potato Slough at Terminous	99	5-6	0.4 ± 0.2	0.2 ± 0.2	10.9 ± 4.5	9.2 ± 4.5
		9-11	0.0 ± 0.3	0.0 ± 0.4	0.6 ± 6.0	0.0 ± 6.0
McCloud River above Shasta Lake	18	5-1	0.1 ± 0.4	0.1 ± 0.4	4.5 ± 6.2	0.0 ± 6.2
		9-10	0.0 ± 0.3	0.0 ± 0.3	0.8 ± 6.1	0.8 ± 6.1
Mokelumne River near Lancha Plana	23a	5-6	0.1 ± 0.2	0.0 ± 0.2	13.7 ± 4.4	13.7 ± 4.4
		9-11	0.0 ± 0.3	0.0 ± 0.3	7.0 ± 6.2	4.4 ± 6.2
Mokelumne River at Woodbridge	23	5-7	0.0 ± 0.2	0.2 ± 0.2	13.0 ± 4.4	16.0 ± 4.4
		9-11	0.1 ± 0.3	0.4 ± 0.4	3.1 ± 6.2	2.6 ± 6.2
Old River at Clifton Court Ferry	104	5-7	0.6 ± 0.2	0.4 ± 0.2	16.4 ± 4.8	16.2 ± 5.4
		9-10	1.0 ± 0.5	1.3 ± 0.6	2.0 ± 6.0	7.5 ± 6.1
Old River at Orwood Bridge	108	5-13	0.1 ± 0.2	1.0 ± 0.3	7.5 ± 4.8	15.5 ± 4.9
		9-10	0.2 ± 0.3	0.5 ± 0.4	0.0 ± 6.0	3.8 ± 6.2
Old River near Tracy	103	5-13	0.0 ± 0.2	0.4 ± 0.3	14.2 ± 4.8	14.9 ± 4.8
		9-10	0.0 ± 0.3	0.4 ± 0.4	3.0 ± 6.1	4.0 ± 6.1
Paynes Creek near Red Bluff	88g	5-15	0.6 ± 0.5	0.0 ± 0.4	5.9 ± 6.5	3.5 ± 6.5
		9-12	0.3 ± 0.5	0.0 ± 0.3	4.3 ± 6.1	3.9 ± 6.1
Pit River near Bieber	17e	5-13	0.4 ± 0.5	0.0 ± 0.4	16.2 ± 6.4	23.7 ± 6.5
		9-12	0.0 ± 0.3	0.0 ± 0.3	0.0 ± 6.0	7.0 ± 6.1
Pit River near Canby	17a	5-13	0.6 ± 0.5	1.2 ± 0.6	17.1 ± 6.5	53.2 ± 7.0
		9-12	0.0 ± 0.3	0.0 ± 0.3	9.3 ± 6.2	4.6 ± 6.1

TABLE D-7

RADIOASSAYS OF SURFACE WATER

Central Valley Region (No. 5)
(Continued)

Station	Sta No	Date 1963	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Pit River near Montgomery Creek	17	5-13	0.0 ± 0.3	0.0 ± 0.3	5.1 ± 6.3	2.4 ± 6.3
		9-12	0.4 ± 0.4	0.0 ± 0.1	0.0 ± 6.0	0.2 ± 6.1
Pit River, South Fork near Likely	18a	5-13	0.1 ± 0.4	0.9 ± 0.6	16.4 ± 6.3	17.8 ± 6.3
		9-12	0.0 ± 0.3	0.0 ± 0.3	7.1 ± 6.3	8.4 ± 6.3
Putah Creek near Winters	81	5-14	0.0 ± 0.2	0.0 ± 0.1	5.8 ± 4.7	4.5 ± 4.7
		9-11	0.0 ± 0.3	0.0 ± 0.3	0.0 ± 6.1	0.2 ± 6.1
Red Bank Creek near Red Bluff	88d	5-15	0.9 ± 0.5	0.1 ± 0.4	0.0 ± 6.3	0.0 ± 6.3
Rock Slough near Knightsen	109	5-13	0.0 ± 0.2	0.1 ± 0.2	9.2 ± 4.7	6.1 ± 4.6
		9-11	0.1 ± 0.2	0.6 ± 0.4	4.8 ± 6.1	3.5 ± 6.1
Sacramento River at Bend	12c	5-3	0.1 ± 0.2	0.0 ± 0.2	10.0 ± 6.2	5.6 ± 6.2
		9-12	0.4 ± 0.5	0.0 ± 0.4	0.0 ± 6.1	4.1 ± 6.2
Sacramento River at Butte City	87a	5-14	0.0 ± 0.3	0.1 ± 0.3	0.0 ± 6.4	0.0 ± 6.4
		9-10	0.1 ± 0.2	0.3 ± 0.3	10.7 ± 6.2	6.1 ± 6.1
Sacramento River at Colusa	13b	5-14	0.0 ± 0.3	0.0 ± 0.3	3.4 ± 6.4	2.7 ± 6.4
		9-12	0.1 ± 0.3	0.0 ± 0.3	7.4 ± 6.1	2.9 ± 6.0
Sacramento River above Colusa Trough	14b	5-14	0.0 ± 0.4	0.1 ± 0.4	5.9 ± 6.3	12.2 ± 6.4
		9-10	0.1 ± 0.3	0.0 ± 0.2	0.0 ± 6.2	0.0 ± 6.1
Sacramento River at Delta	11	5-1	0.5 ± 0.5	0.1 ± 0.4	8.3 ± 6.2	0.0 ± 6.1
		9-10	0.0 ± 0.3	0.0 ± 0.3	2.5 ± 6.1	0.0 ± 6.0
Sacramento River at Freeport	15b	5-15	0.3 ± 0.4	0.2 ± 0.4	1.7 ± 6.4	6.0 ± 6.5
		9-11	0.1 ± 0.4	0.0 ± 0.4	6.3 ± 6.1	7.7 ± 6.1

TABLE D-7

RADIOASSAYS OF SURFACE WATER

Central Valley Region (No. 5)
(Continued)

Station	Sta No	Date 1963	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Sacramento River near Hamilton City	13	5-15	0.1 ± 0.3	0.3 ± 0.3	0.9 ± 6.3	5.6 ± 6.4
		9-10	0.1 ± 0.3	0.1 ± 0.3	1.1 ± 5.9	4.8 ± 6.0
Sacramento River at Keswick	12	5-1	0.2 ± 0.5	0.0 ± 0.4	5.1 ± 6.2	9.9 ± 6.2
		9-12	0.1 ± 0.2	0.3 ± 0.3	4.8 ± 6.1	3.8 ± 6.1
Sacramento River at Rio Vista	16	5-14	0.2 ± 0.2	0.2 ± 0.2	6.3 ± 4.8	15.8 ± 4.9
		9-11	0.1 ± 0.3	0.4 ± 0.4	10.1 ± 5.9	5.5 ± 5.8
Sacramento Slough near Knights Landing	14a	9-10	0.1 ± 0.3	0.2 ± 0.4	0.0 ± 6.1	0.0 ± 6.2
San Joaquin River at Antioch	28	5-14	0.2 ± 0.2	0.2 ± 0.2	9.8 ± 4.7	15.5 ± 4.8
		9-10	0.1 ± 0.4	0.3 ± 0.4	0.0 ± 6.1	0.0 ± 6.1
San Joaquin River at Mossdale Bridge	102	5-13	0.1 ± 0.2	0.6 ± 0.3	15.8 ± 4.6	14.6 ± 4.6
		9-10	0.3 ± 0.5	0.1 ± 0.4	4.3 ± 6.1	3.1 ± 6.1
Stony Creek at Black Butte Dam Site	13c	5-15	0.0 ± 0.3	0.0 ± 0.3	3.3 ± 6.3	8.8 ± 6.4
		9-11	0.0 ± 0.4	0.0 ± 0.4	7.1 ± 6.2	6.6 ± 6.2
Stony Creek near Hamilton City	13a	5-15	0.1 ± 0.3	0.0 ± 0.2	3.9 ± 6.3	4.4 ± 6.3
Thomes Creek near Mouth	95b	5-3	0.0 ± 0.3	0.3 ± 0.3	1.7 ± 6.3	9.9 ± 6.4
Thomes Creek at Paskenta	13d	5-15	0.0 ± 0.4	0.0 ± 0.4	0.0 ± 6.2	0.0 ± 6.3
		9-11	0.0 ± 0.4	0.1 ± 0.4	2.5 ± 6.1	0.0 ± 6.0
Yuba River at Marysville	21	5-9	0.0 ± 0.2	0.1 ± 0.2	14.8 ± 4.4	30.4 ± 5.4
		9-13	0.3 ± 0.4	0.0 ± 0.3	0.0 ± 6.0	0.0 ± 6.0
Yuba River near Smartville	21a	5-1	0.2 ± 0.2	0.0 ± 0.1	9.9 ± 4.4	4.0 ± 4.3
		9-13	0.0 ± 0.3	0.0 ± 0.3	0.0 ± 6.0	0.0 ± 6.0

TABLE D-7
RADIOASSAYS OF SURFACE WATER
Lahontan Region (No. 6)

TABLE D-8

RADIOASSAYS OF SURFACE WATER

Lahontan Region (No. 6)

Station	Sta No	Date	Micro-micro curies per liter			
			Dissolved Alpha	Solid Alpha	Dissolved Beta	Solid Beta
Carson River, East Fork near Markleeville	115	5-2	0.2 ± 0.2	0.7 ± 0.3	20.8 ± 4.6	40.3 ± 5.4
		9-12	0.1 ± 0.3	0.1 ± 0.3	0.4 ± 6.2	1.0 ± 6.2
Carson River, West Fork at Woodfords	115a	5-2	0.2 ± 0.2	0.5 ± 0.2	35.4 ± 4.8	63.9 ± 5.8
		9-12	0.5 ± 0.4	1.8 ± 0.6	6.9 ± 6.2	19.4 ± 6.4
Lake Tahoe at Bijou	39	5-2	0.0 ± 0.2	0.0 ± 0.2	5.3 ± 4.3	5.8 ± 4.3
Lake Tahoe at Tahoe City	38	5-1	0.2 ± 0.2	0.0 ± 0.1	3.8 ± 4.3	0.9 ± 4.2
		9-13	0.3 ± 0.4	0.0 ± 0.4	0.0 ± 6.4	0.6 ± 6.4
Lake Tahoe at Tahoe Vista	37	5-1	0.0 ± 0.2	0.0 ± 0.1	1.8 ± 4.2	5.4 ± 5.0
Susan River at Susanville	17b	5-14	0.0 ± 0.3	0.3 ± 0.4	6.1 ± 6.2	9.7 ± 6.2
		9-12	0.0 ± 0.4	0.0 ± 0.4	7.0 ± 6.2	1.5 ± 6.1
Truckee River near Farad	53	5-3	0.1 ± 0.1	0.2 ± 0.2	23.6 ± 4.5	22.2 ± 4.5
		9-13	0.0 ± 0.3	0.3 ± 0.4	0.0 ± 6.2	0.0 ± 6.2
Truckee River near Truckee	52	5-1	0.0 ± 0.2	0.1 ± 0.1	10.7 ± 4.5	17.5 ± 5.2
		9-13	0.5 ± 0.4	0.0 ± 0.3	7.1 ± 6.3	0.0 ± 6.2
Walker River, East near Bridgeport	116a	5-2	0.3 ± 0.3	0.0 ± 0.1	22.0 ± 4.6	17.0 ± 5.3
		9-12	0.4 ± 0.4	0.0 ± 0.4	10.2 ± 6.5	5.1 ± 6.4
Walker River, West near Coleville	116	5-2	0.0 ± 0.2	0.0 ± 0.2	20.7 ± 4.5	51.7 ± 5.0
		9-12	0.1 ± 0.3	0.4 ± 0.3	13.8 ± 6.5	22.3 ± 6.6

TABLE D-9

ANALYSES OF ORGANIC CHEMICALS IN SURFACE WATER[a]

(Recovered by Carbon Filter Technique)

CENTRAL VALLEY REGION (NO. 5)

Results in parts per billion (ppb)

Station	Date Sampled	Total Extract		Chloroform Extractables		Alcohol Extractables		Group Separation of Chloroform Extractables																Group Separation of Neutrals									
								Ether Insolubles		Water Solubles		Amines		Strong Acids		Weak Acids		Neutrals (see breakdown)		Total		Loss		Aliphatics		Aromatics		Oxygenates		Total		Loss	
		ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%	ppb	%
American River at Sacramento	9-7-62	209		109	52.1	100	47.9	4	3.6	38	34.5	1	0.9	11	9.7	8	7.1	16	15.0	78	70.8	31	29.2	1	3.2	1	3.2	13	82.1	15	88.5	1	11.5
	8-2-63	353		95	27.0	258	73.0	6	6.1	37	38.6	1	0.9	7	7.8	9	9.6	17	17.4	77	80.4	18	19.6	1	4.0	0	2.7	15	92.0	16	98.7	1	1.3
Cache Creek near Lower Lake	6-4-62	259		92	35.4	167	64.6	8	9.0	32	34.9	2	1.9	10	11.3	6	7.0	14	14.7	72	78.8	20	21.2	0	3.1	1	4.6	12	84.7	13	92.4	1	7.6
	9-21-62	622		235	37.8	387	62.2	6	2.8	73	31.0	4	1.8	22	9.3	31	13.1	30	12.8	166	70.8	69	29.2	2		2		25		29		1	
	5-13-63	245		83	34.1	162	65.9	6	7.7	25	30.6	2	2.3	7	8.6	5	6.0	19	22.5	64	77.9	19	22.1	0	2.2	0	2.2	18	93.6	18	98.0	1	2.0
Cache Creek at Highway 53	9-13-63	433		165	38.0	268	62.0	6	3.8	54	33.0	2	1.3	20	12.1	14	8.6	30	18.0	126	76.8	39	23.2	0	1.5	0	1.5	27	92.5	27	95.5	3	4.5
Clear Lake at Nice	6-11-62	290		108	37.3	182	62.7	1	1.3	34	31.6	2	2.3	12	11.2	7	6.8	16	15.2	72	68.4	36	31.6	1	3.8	1	3.8	15	90.0	17	97.6	0	2.4
	9-21-62	347		110	31.6	237	68.4	7	6.7	42	38.7	3	2.7	12	10.4	10	8.8	26	25.2	102	92.5	8	7.5	1	2.3	1	2.3	25	89.7	27	94.3	1	5.7
Feather River above Verona	7-20-62	230		67	29.1	163	70.9	4	5.8	24	36.6	2	2.3	6	8.8	7	10.3	14	21.6	57	85.4	10	14.6	1	4.9	1	4.9	13	88.2	15	98.0	0	2.0
	1-30-63	142		51	35.3	91	64.7	6	12.1	16	31.7	1	1.2	4	8.6	4	8.8	8	16.7	39	79.1	12	20.9	0	4.3	0	2.9	7	85.7	7	92.7	1	7.1
	8-5-63	306		89	29.0	217	71.0	3	3.4	35	39.2	1	1.5	7	8.3	10	11.8	17	19.3	73	83.5	16	16.5	0	2.6	0	2.6	17	96.2	17	101.4	0	
Putah Creek at Diversion to Putah South Canal	7-2-62	235		78	33.3	157	66.7	1	1.7	33	42.3	2	2.3	9	11.7	6	8.1	13	17.2	64	83.3	14	16.7	0	3.7	0	2.5	12	91.4	12	97.6	1	2.4
	10-5-62	281		69	24.6	212	75.4	8	11.9	24	34.1	1	2.0	5	7.6	6	8.9	15	21.8	59	86.5	10	13.5	1	8.7	0	2.7	13	85.8	14	97.2	1	2.8
	5-27-63	209		51	24.5	158	75.5	2	3.5	15	28.8	1	2.1	3	6.7	5	9.3	12	22.5	38	72.7	13	27.3	0	4.2	1	5.2	11	91.7	12	100	0	0
Reclamation District 1000 Drain at Second Bannon Slough	9-27-62	173		105	60.8	68	39.2	4	3.8	36	34.8	2	2.3	12	11.8	9	8.2	21	19.7	84	80.6	21	19.4	1	5.3	1	5.3	17	83.0	19	93.6	2	6.4
	9-19-63	333		154	46.2	179	53.8	19	12.5	40	25.9	3	1.7	17	11.3	9	6.0	22	14.2	110	71.6	44	28.4	0	1.7	0	1.7	20	91.5	20	94.9	2	5.1
Sacramento River above Sacramento Slough	7-20-62	163		40	24.5	123	75.5	2	4.5	14	33.7	1	2.2	4	10.1	4	9.9	7	18.2	32	78.6	8	21.4	0	3.5	0	3.5	7	90.8	7	97.8	0	2.2
	7-20-63	180		76	42.1	104	57.9	6	8.3	23	29.9	1	1.9	8	10.2	6	8.0	14	18.2	58	76.5	18	23.5	1	4.5	0	3.0	13	91.1	14	98.6	0	1.4
San Joaquin River at Mossdale Bridge	8-1-62	317		103	32.6	214	67.4	3	2.6	29	28.4	2	1.9	9	8.8	16	15.6	30	28.8	89	86.1	14	13.9	1	4.4	1	3.7	28	91.1	30	99.2	0	0.8
	10-11-62	218		77	35.2	141	64.8	11	14.0	20	25.6	2	2.1	3	4.3	8	11.0	14	18.6	58	75.6	19	24.4	1	4.0	0	3.0	12	82.5	13	89.5	1	10.5
	7-18-63	275		110	40.0	165	60.0	10	9.3	33	30.1	2	2.0	8	7.3	10	9.0	25	23.0	88	80.7	22	19.3	2	9.7	1	5.4	20	80.7	23	95.8	2	4.2

a Analyses made by California Department of Public Health, Sanitation and Radiation Laboratory

TABLE D-10

DESCRIPTION OF SALINITY OBSERVATION STATIONS

1962-63 Water Year

Station	Miles from Golden Gate (a)	Time Interval (b)		Location
		Hours	Min.	
				SAN FRANCISCO, SAN PABLO, AND SUISUN BAYS
Sobrante Beach	20.5	2	50	South shore of San Pablo Bay from wharf approximately 1.5 miles upstream from Point Pinole.
Crockett	27.7	3	30	West end of Carquinez Strait, south shore, 0.2 mile east of Carquinez Bridge on wharf of C and H Sugar Refinery Corporation.
Benicia	32.5	3	50	East end of Carquinez Strait, north shore, 1.1 miles west of Southern Pacific Company railroad bridge at Benicia Arsenal.
Martinez	33.1	3	50	Sampled from Shell Oil Company dock, about 0.6 mile downstream from Southern Pacific Company railroad bridge.
West Suisun	37.0	4	10	West end of Suisun Bay, north shore, 2.5 miles northeast of Southern Pacific railroad bridge at service pier of U. S. Maritime Commission, Reserve Fleet mooring area.
Innisfail Ferry	47.3	4	50	Montezuma Slough, about one mile east of junction with Cutoff Slough near north end of Grizzly Island.
Port Chicago	41.0	4	20	South Shore of Suisun Bay at U. S. Naval ammunition loading wharf below Port Chicago.
Spoonbill Creek	48.9	5	05	At Sacramento Northern Railroad crossing.
Pittsburg	48.0	5	00	East end of Suisun Bay, south shore, at Pittsburg Yacht Harbor.
				SACRAMENTO RIVER DELTA
Collinsville	50.8	5	25	Sacramento River, north bank at junction with San Joaquin River.
Emmaton	57.6	5	45	Sacramento River, south bank, 5.9 miles downstream from Rio Vista.
Threemile Slough Bridge	60.0	5	55	At junction of slough and Sacramento River.
Rio Vista Bridge	63.5	6	05	At highway bridge near northerly limits of Rio Vista.
Isleton Bridge	68.7	6	30	Sacramento River, one mile upstream from Isleton.
				SAN JOAQUIN RIVER DELTA
Antioch	54.9	5	55	San Joaquin River at City Water Works pumping plant.
Antioch Bridge	58.2	6	10	South shore San Joaquin River at Antioch Bridge.
Jersey Island	60.9	6	20	San Joaquin River, left bank approximately 1.5 miles below mouth of False River.
Threemile Slough	64.2	6	30	Threemile Slough, west bank, of junction of slough with the San Joaquin River.
Oulton Point	67.2	6	40	San Joaquin River, right bank, three miles upstream from junction of Threemile Slough.
Webb Ferry	68.0	6	40	False River at junction with Fisherman's Cut.
San Andreas Landing	70.3	6	55	San Joaquin River, right bank, one mile below the mouth of the Mokelumne River.
Opposite Central Landing	72.0	7	00	Mokelumne River on Andrus Island directly opposite Central Landing on Bouldin Island.
Dutch Slough	73.0	7	05	At Bethel Island Bridge.
East Contra Costa Irrigation District	86.7	8	20	Indian Slough at East Contra Costa Irrigation District pumping plant.
Clifton Court Ferry	94.2	9	10	Old River just below junction with Grant Line Canal.
Mossdale Bridge	108.5	10	50	San Joaquin River at U. S. 50 Highway crossing about three miles southwest of Lathrop.
Vernalis	127.0	11	00	San Joaquin River at Durham Ferry Bridge above tidal influence.

a Mileage measured to station along main channel. For stations off the main channel, the mileage shown is the same distance along the main channel to a point whereon the time of the occurrence of the tidal phase is the same as that of the observation station.
b Time interval between high tide at Golden Gate and time for taking samples at station.

TABLE D-11

MAXIMUM OBSERVED SALINITY AT BAY AND DELTA STATIONS

In parts of chloride per million parts of water*

Station (a)	Water Year											
	1931	1938	1939	1944 [b]	1952	1955	1956 [c]	1958	1959	1961	1962	1963
Sacramento-San Joaquin System Unimpaired Runoff in percent of average (d)	34	188	49	62	168	63	175	166	66	61		
					San Francisco, San Pablo and Suisun Bays							
Sobrante Beach**					14200	19000	16200	13800	17200	15000	15600	13300
Crockett					13200	16600	15300	11900	15000	19900	13900	13100
Benicia**				13900	10400	15100	12300	12100	19200	14000	12300	9780
Martinez	16900	11600	16400		8900	11900	11900	7150	10200	11600	12700	11500
West Suisun**					7900	12600	11200	7520	13200	13200	11100	8280
Innisfail Ferry**	14000	3300	13600	7900	4200	5780	5200	3040	9640	13900	5690	2890
Port Chicago					6900	12500	9750	5830	15640	11900	9370	9200
Spoonbill Creek	13900	2560	11800	7300	2800	6400	4040	930	6270	5900	3540	2940
Pittsburg					1200	7800	3440	1200	5110	3920	3980	1350
					Sacramento River Delta							
Collinsville	12600	860	10400	4700	783	3880	2280	550	5430	4300	2430	1980
Emmaton						1080	158	29	2600	2070	841	382
Threemile Slough Bridge	8600		5900	1610	175	635	56	18	1480	633	232	134
Rio Vista Bridge	7400		4050	550	175	158	21	17	219	69	52	38
Isleton Bridge	6350		2500	50	125	23	17	14	20	18	18	14
					San Joaquin River Delta							
Antioch	12400	510	9200	4000	354	3320	1270	184	3410	2930	1770	1040
Antioch Bridge						2360	160	122	2570	1360	479	317
Jersey Island						1130	152	52	1220		84	136
Threemile Slough						428	82	45	1900	489	130	56
Oulton Point**						376	105	44	567	596	150	69
Webb Ferry						331	79					98
San Andreas Landing						98	66	46	248	345	57	41
Opposite Central Landing**	4250	100	1380	200	250	36	96	17	46	34	27	20
Dutch Slough	5100	110	2250	690	88	454	107	110	1044	825	192	98
East Contra Costa Irrigation District**			320	140	152	196	173	333	356	278	222	167
Clifton Court Ferry**	1300		190		112	146	146	126	211	191	246	153
Mossdale Bridge	120	120	160	130	122	224	206	219	261	346	308	196
Vernalis (e)**					121	231	202	146	297	508	309	201

* Ocean water contains approximately 18,200 parts per million.
** Station discontinued July, 1963.

a For location see Plate.
b Releases of stored water from Shasta Lake commenced in 1944.
c Releases of stored water from Folsom Reservoir commenced in 1956.
d Average taken as mean annual unimpaired flow at foothill stations of major tributaries for 50-year period October, 1907 through September, 1957.
e Station located above tidal action.

TABLE D-12

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS*

In parts of chloride per million parts of water

Station	October 1962							
	2	6	10	14	18	22	26	30
				San Francisco, San Pablo, and Suisun Bays				
Sobrante Beach	13300	a12700	a14200	11900	a4530	4490	7520	8680
Crockett	11400	10700	e11500	9910	2640		4760	6230
Benicia	7820	9180	e9780	7920	944	4530	3970	5190
Martinez	a9000	a8470	e9070	a8870	1320	3580	2910	a3970
West Suisun	7820	bd8280	7080		755	ae944		2470
Innisfail Ferry	2740	a2890			a1510		781	
Port Chicago	6460	6130	d7830	2080	566	755	969	
Spoonbill Creek	1010	a1490	a1250	1560	a212	85	71	55
Pittsburg	492		a642		a142	61	19	29
				Sacramento River Delta				
Collinsville	a426	ad447	a382	247	a68		40	31
Emmaton	a123	a53	a150	40	b16	13	11	15
Threemile Slough Br.	21		19	15	8	13	13	a10
Rio Vista Bridge	g9	8	8	12	8	11	16	13
Isleton Bridge	8	7	11	a10	8	9	12	7
				San Joaquin River Delta				
Antioch	a246	a200	a708	311	a75	58	30	24
Antioch Bridge	a71	58	a67	78	51	45	37	31
Jersey Island	78	a47	a58	64	a30	28	26	a22
Threemile Slough	26		a29	28	a18		18	a18
Oulton Point	a27	a25	a34	69	20	19	16	17
San Andreas Ldg.	18	20	a19	18	a16	19	18	17
Opp. Central Ldg.	a12		a14	12	a10	11	adh11	a11
Dutch Slough	a66	a54	a50	d50	a45	43	a43	38
E.C.C.I.D.	a91	a86	86	59	a90	104	a113	a106
Clifton Court Ferry	a53	a55	54	a53	a97	113	a113	a117
Mossdale Bridge	a140	a140	190	a137	a123	170	a177	a128
Vernalis (g)	bd157	145	174	123	113	d151	151	129

Station	November 1962							
	2	6	10	14	18	22	26	30
				San Francisco, San Pablo, and Suisun Bays				
Sobrante Beach	8600	9020	11000	10400	a9500	13000	11700	10200
Crockett		a7190	9770	8540	7130	9220	10000	7670
Benicia	4200	4630	5960	7340	4050	8100	4920	5200
Martinez	7500	5820	a6980	7900	5710	8960	9250	8290
West Suisun	1730	2120		4400	1390	5180		4000
Innisfail Ferry	843	935			1080	1040		1240
Port Chicago	1470			d3170		4360	6090	2640
Spoonbill Creek	a56	65	135	260	138	145	357	280
Pittsburg		27	bd61	136	53	de63	314	81
				Sacramento River Delta				
Collinsville	23	21	27	a26	26	25	48	a41
Emmaton	bd15	16	18	28	20	17	19	a18
Threemile Slough Br.	12	10		12	12	11	13	11
Rio Vista Bridge	12	10	12	15	9	10	12	9
Isleton Bridge	7	8	9	9	7	9	7	4
				San Joaquin River Delta				
Antioch	a25	24	44	52	39	42	61	46
Antioch Bridge	34	34	a29	35	30	30	31	29
Jersey Island	22	22	22	a22	a22	22	22	34
Threemile Slough	a19		18	a17		20	18	d18
Oulton Point	20	19	cd18	18	20	bd21	a19	a18
San Andreas Ldg.	a21	20	18	18	23	19	20	19
Opp. Central Ldg.	a10		a9	a9	13		a9	a8
Dutch Slough	a41	40	42	a43	41	43	42	a46
E.C.C.I.D.	a115	120	a115	a134	142	139	a152	a153
Clifton Court Ferry		128	a132	a134	136	129	a128	a118
Mossdale Bridge	a136	138	a125	a128	120	120	a94	a69
Vernalis (g)	132	130	120	122	117	113	90	124

* Samples taken at four-day intervals approximately one and one-half hours after high high tide.

a Taken after low high tide.
b Taken on following day.
c Taken two days later.
d Taken over one hour off scheduled time.
e Taken on preceding day.
f Taken two days earlier.
g Station located above tidal action.
h Taken 3 days later.

TABLE D-12

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS*

In parts of chloride per million parts of water

Station	December 1962							
	2	6	10	14	18	22	26	30
				San Francisco, San Pablo, and Suisun Bays				
Sobrante Beach	9940	9890	10200	10200	8140	8790	7360	8350
Crockett	7330	7040	8580	7000	7130	5900	5670	5590
Benicia	4510	5070	5130	5460	4740		3280	3080
Martinez	6860	7830	7710	5980	5070	6520	6360	
West Suisun	2320		d2630	d3080	2410	1130	1390	810
Innisfail Ferry				728	1010			713
Port Chicago			2580		1450	2760		
Spoonbill Creek	171	71	38	72	46	23	30	
Pittsburg		34		29	d27		24	
				Sacramento River Delta				
Collinsville	37	20	15	a10	12	15	11	12
Emmaton	15	10	10	10	9	8	10	11
Threemile Slough Br.	12	10	11	7	11	7	13	10
Rio Vista Bridge	8	7	5	6	7	11	8	7
Isleton Bridge	8	4	4	7	3	5	6	7
				San Joaquin River Delta				
Antioch	a32	27	21	a28	30	28	22	a30
Antioch Bridge	32	36	31	a36	40	42	34	a39
Jersey Island	a22	a23	22		24	30	a28	
Threemile Slough		20	17		25			
Oulton Point		18	15	16	28	21	21	24
San Andreas Ldg.	a22	20	18	41	21	16	22	25
Opp. Central Ldg.	a9	6				6	8	11
Dutch Slough	a47	48	50	a53	56	65	62	a55
E.C.C.I.D.	a167	164	a148	a140	133	128	a129	a132
Clifton Court Ferry	a99	90	a88	a80	88	98	a80	a87
Mossdale Bridge	a74	80	a72	a92	100	78	a82	a92
Vernalis (g)	109	68	d64	de69	100	59	66	75

Station	January 1963							
	2	6	10	14	18	22	26	30
				San Francisco, San Pablo, and Suisun Bays				
Sobrante Beach	8230	9060	9120	8680	8250	10600	11000	11100
Crockett	5780	d7480	7340	5340	7290			9250
Benicia	2810	5400	4470	2540	6070	7580	6380	bd6090
Martinez	5130	4470	7110	a5670	7360	9180	8020	a8310
West Suisun	1160	2530		2140	ae1840		4030	3790
Innisfail Ferry		492		641		856		1200
Port Chicago		2330	2060	443	4340	4240	4070	4070
Spoonbill Creek	30	32	62	42	57	376	431	444
Pittsburg	27	bd27		d34	47	d96		146
				Sacramento River Delta				
Collinsville	12	22	14	24	20	142	52	106
Emmaton	11	14	17	14	17	18	26	bd31
Threemile Slough Br.	8	7	9	9	15	13	16	14
Rio Vista Bridge	8	8	10	9		9	16	13
Isleton Bridge	5	5	9	8	7	8	7	5
				San Joaquin River Delta				
Antioch	27	27	33	36	35	43	73	91
Antioch Bridge	43	46	47	47	45	42	50	47
Jersey Island		29	33	37	36	32	35	46
Threemile Slough	25	28	25	30	27	26	26	
Oulton Point		21		29	29	bd23	19	21
San Andreas Ldg.		29	28	31	10	18	23	21
Opp. Central Ldg.	8		a8	9	7	10	a9	10
Dutch Slough	67	68	64	62	d63	61	64	49
E.C.C.I.D.	135	130	a128	128	127	132	127	132
Clifton Court Ferry	96	107	a99		127	132	a136	139
Mossdale Bridge	100	a94	a106	102	133	al46	a155	179
Vernalis (g)	110	100	d96	109	136	156	148	172

* Samples taken at four-day intervals approximately one and one-half hours after high high tide.

a Taken after low high tide.
b Taken on following day.
c Taken two days later.
d Taken over one hour off scheduled time.
e Taken on preceding day.
f Taken two days earlier.
g Station located above tidal action.

TABLE D-12

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS*

In parts of chloride per million parts of water

Station	February 1963							
	2	6	10	14	18	22	26	
			San Francisco, San Pablo, and Suisun Bays					
Sobrante Beach	4700	1440	4690	2200	3470	4490	a6170	
Crockett	3550	763	2400	1670	1970	3970	3370	
Benicia	1910	54	514	1060	250	2800	810	
Martinez	2850	38	935		386		a1870	
West Suisun	496		76	59		492	178	
Innisfail Ferry	1050	142	226		255	337	a450	
Port Chicago	bd37		35	19		e371	33	
Spoonbill Creek	173	8	14	19	20	31	a29	
Pittsburg		14			bd25	32	ab32	
			Sacramento River Delta					
Collinsville	d16	9		22	14	18	a48	
Emmaton	15	4	12	abd11	13	11	14	
Threemile Slough Br.	3	5	7	13	6	10	11	
Rio Vista Bridge	12	4	6	10	4	11	12	
Isleton Bridge	1	3	6	6	6	8	5	
			San Joaquin River Delta					
Antioch	37	30		48	40	35	a34	
Antioch Bridge	47	47	66	70	77	58	a61	
Jersey Island	49	30	37	40	33	35	a30	
Threemile Slough	24	21	25	28	24	19	25	
Oulton Point	26	29	33	41	29	24	23	
San Andreas Ldg.	22	19	22	32	29	22	23	
Opp. Central Ldg.	8	8	a8	9	8	14	10	
Dutch Slough	49	79	98	86	74	a68	64	
E.C.C.I.D.	124	148	abd99	118	98	a108	118	
Clifton Court Ferry	153	a23	a32	24	27	a31	44	
Mossdale Bridge	122	a13	a30	23	24	a42	52	
Vernalis (g)	46	12	32	21	20	41	54	

Station	March 1963							
	2	6	10	14	18	22	26	30
			San Francisco, San Pablo, and Suisun Bays					
Sobrante Beach	6360	8060	9090	a11200	7860	12300	ad11400	5340
Crockett	d3860	6700		7280	5730	11200	10100	5920
Benicia			5420	3750	3650	6700	7090	3400
Martinez	3030	6890		5630	6540	9610	a5730	3980
West Suisun	1530			2800	ae1070	510	2600	849
Innisfail Ferry	479			a476	524	529	a752	a752
Port Chicago	466	1616	1690	2620	ae1140		2820	680
Spoonbill Creek	29	31	32	a34	46	284	a246	49
Pittsburg		24	30	abd32	40		a95	73
			Sacramento River Delta					
Collinsville		17	27	25	23	30	a30	23
Emmaton	15	14	abd16	19	18	21	a23	14
Threemile Slough Br.	9	11	14	16	14	15	14	11
Rio Vista Bridge	7	14	11	14	14	16	11	7
Isleton Bridge	4	6	11	8	12	9	7	2
			San Joaquin River Delta					
Antioch	25	31	34	a32	30	58	a49	36
Antioch Bridge	55	38	a50	a45	40	49	a42	42
Jersey Island	31	31	30	29	28	27	a27	27
Threemile Slough	24	25			22	21	16	
Oulton Point	bd29	27	a22	16	bd24	17	17	21
San Andreas Ldg.	24	19	20	19	16	10	12	16
Opp. Central Ldg.	20	10	a12	12	12		11	8
Dutch Slough	43	52	26	53	49	48	51	54
E.C.C.I.D.	131	133	a121	92	61	67	73	
Clifton Court Ferry	62	a71	a77	82	77		73	133
Mossdale Bridge	62	a109	a132	133	143	a196	129	56
Vernalis (g)	50	114	136	126	114	201	137	19

* Samples taken at four-day intervals approximately one and one-half hours after high high tide.

a Taken after low high tide.
b Taken on following day.
c Taken two days later.
d Taken over one hour off scheduled time.
e Taken on preceding day.
f Taken two days earlier.
g Station located above tidal action.

TABLE D-12

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS*
In parts of chloride per million parts of water

Station	April 1963							
	2	6	10	14	18	22	26	30
			San Francisco, San Pablo, and Suisun Bays					
Sobrante Beach	5150	adf8450	a3790	a2010	a2670	a2960	a2770	3610
Crockett	1460	4180	2230	874	1070	1140	1260	807
Benicia	291	2620	158	85	b655	316		277
Martinez	583	2720	a3570	801	a22		de866	221
West Suisun	78	121	46	48	de29	36	30	ae70
Innisfail Ferry	607		a170	ad121		a86	a109	
Port Chicago	24	de308	d20		b17		d56	ae61
Spoonbill Creek		a19	a12	10	a7	a12	a10	8
Pittsburg	bd21				a7	abd23	a21	16
			Sacramento River Delta					
Collinsville	10	a12	a16	4	a6		7	10
Emmaton	6	a7	a2	bd10	a4	a3	9	6
Threemile Slough Br.	10	8	a3	3		3	d5	5
Rio Vista Bridge	6	11	5	5	b6	4	4	4
Isleton Bridge	5	4	3	2	b3	3	2	5
			San Joaquin River Delta					
Antioch	23		a31	24	a27	a25	15	20
Antioch Bridge	44	a43	42	36	a42	a89	33	32
Jersey Island		a25	a29	40	a30	a26	a23	22
Threemile Slough	16	a25	a15		a7	a9		
Oulton Point	26	a26		16		14	13	13
San Andreas Ldg.	6	a21	a9	5	a17	a12	11	12
Opp. Central Ldg.	6			2	a4	a5	3	
Dutch Slough	48	54	67	65	a56	a43	42	40
E.C.C.I.D.	bd133	131	all4	61	a56	66	35	48
Clifton Court Ferry	32	39	36	17	a22	27	22	21
Mossdale Bridge	22	36	22	17	a27	17	15	23
Vernalis (g)	22	44	17	22	27	17	15	24

Station	May 1963							
	2	6	10	14	18	22	26	30
			San Francisco, San Pablo, and Suisun Bays					
Sobrante Beach	3270	a6040	a7330	a5150	a8910	a7920	a7520	a8510
Crockett	2670		3790	2380	5540	5150	3860	e3960
Benicia	1090	2820	2180	792	3910	4060	2570	e2670
Martinez	1460	a1390	a2030	1140	5150		3960	e2970
West Suisun	129	317	163	287	2250	4460	198	e366
Innisfail Ferry		a134		148	a121			
Port Chicago	bd33	d24	40	16	bdl110	624	44	
Spoonbill Creek	a15	a12	a14	15	a14	a12	12	a12
Pittsburg	a18		a15	13	a13	a13	a15	
			Sacramento River Delta					
Collinsville	a8	a8	all	10	a17	a16	12	a8
Emmaton	a8	a6	5	6		a7	a9	
Threemile Slough Br.	a8	a8	7	6	a6	a6	d7	a9
Rio Vista Bridge	7	15	5	5	9	7	12	8
Isleton Bridge	2	3		6	4	6	4	6
			San Joaquin River Delta					
Antioch	a20	a21	15	15	a16	a17	14	a15
Antioch Bridge	a37	a34	a37	33	a27	a29	27	a22
Jersey Island	a16	a19	a15	15	a18	a14	14	a18
Threemile Slough		a13	ad10		a16	all		a12
Oulton Point	a18	14	12	12	abd14	11	12	a14
San Andreas Ldg.	a5	all	10	13	a9	a9	12	a8
Opp. Central Ldg.	a5	a7	7	6	acd6			a6
Dutch Slough	ad42	34	33	32	a32	32	21	a26
E.C.C.I.D.	a70	a66	69	55	a48	77	50	40
Clifton Court Ferry	a32	29	28	12	a25	28	15	a14
Mossdale Bridge	a26	26	29	12	a34	17	13	a10
Vernalis (g)	36	27	30	13	2	d12	11	

* Samples taken at four-day intervals approximately one and one-half hours after high high tide.
a Taken after low high tide.
b Taken on following day.
c Taken two days later.
d Taken over one hour off scheduled time.
e Taken on preceding day.
f Taken two days earlier.
g Station located above tidal action.

TABLE D-12

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS*

In parts of chloride per million parts of water

Station	June 1963							
	2	6	10	14	18	22	26	30
				San Francisco, San Pablo, and Suisun Bays				
Sobrante Beach	a5440	a9110	a10500	a12100	a11500	a10300	9920	a11700
Crockett	4750	5640	6730	e6830	9600	8510	7720	
Benicia	3370	4750	5540	e4750	7330	6930	3370	e5540
Martinez	1980	5350	5940	e4950	6140	6530	6930	e7030
West Suisun	1240	2480	4010	e2970		5440	3860	e3860
Innisfail Ferry					abd109			
Port Chicago	bd495	1810	2600	e990	3910			
Spoonbill Creek	a13			a30	ad109	a188	96	a166
Pittsburg			d19	a22	a58	a64	abd62	
				Sacrameoto River Delta				
Collinsville	a10		13	a15	a41	a14	a25	
Emmaton	a8	a9	ad14	a11	a12	a17		a13
Threemile Slough Br.	a10	a8	10	a11	a12	a14	a13	a14
Rio Vista Bridge	11	9	12	12	11	11	11	11
Isleton Bridge	5	8	8	17	10	11	b10	10
				San Joaquin River Delta				
Antioch	a16	a17	a16	19	a20		28	a31
Antioch Bridge	a25	a26	a26	a24	a23	a27	27	a33
Jersey Island	a14	a15	a15	a15	a17	a14	a16	
Threemile Slough		a12				a13	a12	a13
Oultoo Point	a13	12			a13	12	a15	
San Andreas Ldg.	a12	a11	12	a11	a13	12		a13
Opp. Central Ldg.	a7	6	11		a11	10	a10	a9
Dutch Slough		21	21	a18	a19	19	a21	a21
E.C.C.I.D.	31	18	22	a24	33	32	a36	32
Clifton Court Ferry	a15	18	19	a26	a28			a30
Mossdale Bridge	a16	19	31	a42	34	12	a45	a86
Vernalis (g)		20	30	44			48	57

Station	July 1963							
	2	6	10	14	18	22	26	30
				San Francisco, San Pablo, and Suisun Bays				
Crockett	9180	8920	8820	e10400	11700	12200	10300	e11300
Martinez	8700	ad6450	a8370	aed6250	9510	9530	a8750	e9780
Port Chicago		5900	4470	aed4490	7330	7720		a4850
Spoonbill Creek		a409	a586	e1100	d882	abd1720	1270	a1920
Pittsburg	a84	cd426		abd353		d817		aed1170
				Sacramento River Delta				
Collinsville	a56	a40	368	a311	a445	1090	a728	a794
Emmaton	abd20	a28	55	d20	a43	bd209	a133	a66
Threemile Slough Br.	a13	bd20	20	a18	a29	75	a30	a34
Rio Vista Bridge	12	12	8	14	18	16	16	14
Isleton Bridge	10	10	14	10	11	10	9	10
				San Joaquin River Delta				
Antioch	a29	a86	154		a134	660	a380	a306
Antioch Bridge	a29	a42		a44	a53		70	a121
Jersey Island	a18		40	a23	a18	a41	a52	a54
Threemile Slough	a14		16	a17		a23	a25	ad36
Webb Ferry	a15	16	23	a18	a22	a30	a24	a34
San Andreas Ldg.	a14	12		a11	a12	14	a12	a13
Dutch Slough	a21	22	23	a18	a24	26	a30	a57

* Samples taken at four-day intervals approximately one and one-half hours after high high tide.

a Taken after low high tide.
b Taken on following day.
c Taken two days later.
d Takeo over ooe hour off scheduled time.
e Taken oo preceding day.
f Takeo two days earlier.
g Station located above tidal action.

TABLE D-12

SALINITY OBSERVATIONS AT BAY AND DELTA STATIONS*

In parts of chloride per million parts of water

Station	August 1963							
	2	6	10	14	18	22	26	30
				San Francisco, San Pablo, and Suisun Bays				
Crockett	12900	13100	12600	e12400	13200	12400	10900	e12100
Martinez	10600	a8000	11500	a8180	11400	9880	9710	e11400
Port Chicago	a5640	7830	6670	e8120	8780	8530	7190	9200
Spoonbill Creek	a2450	a2640	a2350	a2500		2520	2250	a2940
Pittsburg				ad906	abd1130		a1350	
				Sacramento River Delta				
Collinsville	a1260				a1720	1980	a1030	a1370
Emmaton	a120	287	a204	a165	a286	335	a175	a172
Threemile Slough Br.		a90	a64	a58	d134	81	a63	abd81
Rio Vista Bridge	21	38	24	37	21	42	12	15
Isleton Bridge	11	9	9	11	14	10	10	10
				San Joaquin River Delta				
Antioch	a494	967	736		a659	1040	a426	a637
Antioch Bridge	ad168	a250	a212		a317	a249	a226	a235
Jersey Island	a101	a103				a136	a89	a82
Threemile Slough		a56	a52	a40	a56	a51		a53
Webb Ferry		a73			a98	31	a58	a81
San Andreas Ldg.	a16	a15	a16	a16		a19	a16	a22
Dutch Slough	a65	67	ad73		81	86	a73	a80

Station	September 1963							
	2	6	10	14	18	22	26	30
				San Francisco, San Pablo, and Suisun Bays				
Crockett	12600	12400	11800	11000	10800	9800	10700	d9900
Martinez		10900	a8240	10800	9310	a8820		
Port Chicago		5490	6860	6280	5290	3330	3820	5490
Spoonbill Creek	a2350	2300	1690		882	417	a368	a735
Pittsburg					a333		a137	abd167
				Sacramento River Delta				
Collinsville	a1030	a1400	a515	a578	a98	172	a44	a220
Emmaton	bd382	216	a59	abd35	47	30	a22	a26
Threemile Slough Br.	bd54	58	a35	a26	a19	15	abd15	a11
Rio Vista Bridge	29	26	19	12	13	12	b7	8
Isleton Bridge	13	12	14	14	11	13	b10	8
				San Joaquin River Delta				
Antioch		784	a314	a250	a157	88	a39	a49
Antioch Bridge	a274	176		a83	a35	42	a33	a28
Jersey Island	a74	96	51	a46	a22	a20	a20	a25
Threemile Slough	a36	37	a20	a20		a16	a16	a15
Webb Ferry	a67	a75	a20	a35	a24		a17	
San Andreas Ldg.	a17	a18	a16	a16	16	a14	a15	a14
Dutch Slough	a72	a74	a63	a55	50	a35	a32	a29

* Samples taken at four-day intervals approximately one and one-half hours after high high tide.

a Taken after low high tide.
b Taken on following day.
c Taken two days later.
d Taken over one hour off scheduled time.
e Taken on preceding day.
f Taken two days earlier.

Appendix E

GROUND WATER QUALITY

TABLE OF CONTENTS

TABLES

PLATES
(Bound at end of Appendix E)

GROUND WATER QUALITY

Data presented in this appendix are measured values of selected quality characteristics of ground waters in Northeastern California, as shown on Figure 1 "Area Orientation Map". The ground water quality data program is based on systematic sampling of a predetermined network and is reported annually by water year. The ground water quality data program is performed in cooperation with other state, local, and federal agencies.

All data presented in this volume are within Water Pollution Control Board Regions Nos. 5 and 6. The ground water quality data are grouped according to the Water Pollution Control Board Region and wells sampled by the program are arranged by basin number and tabulated in sequence by township, range, and section.

Water quality data programs consist of selecting locations to be sampled, collection of samples by department personnel or cooperators, laboratory analysis by an assigned agency, examination of the data to note trends or significant changes, and publication of the data and findings.

Field sampling is performed in accordance with accepted engineering practice. Comments on local conditions are noted in the field books but are not included in the tabulation.

Laboratory analysis of ground water was performed in the Department's Chemical Laboratory at Bryte and, by contract with Lein Laboratory, both in accordance with "Standard Methods for the Examination of Water and Waste Water", Eleventh Edition. Heavy metal analysis was by "wet" analysis at the Bryte Laboratory. Tabulated values for dissolved minerals are the analytical quantity reported in parts per million (ppm) and a computed value for equivalents per million(epm). Electrical conductivity is reported

as micromhos per centimeter at 25°C. Water temperature is reported in degrees Fahrenheit and is measured in the field at time of sampling.

Analyses for radioactivity were made by the California Disaster Office Laboratory in Sacramento and results are expressed in terms of activity, measured in micro-micro curies per liter which is equivalent to pico-curies per liter. The most probable error is reported along with the measured value.

Results of bacterial, radiological, and organic determinations presented in this bulletin should be considered qualitative and undue emphasis should not be given to quantitative values.

Quality information for most wells in the monitoring program is augmented by well logs and well construction information.

Well Numbering System

The state well numbering system used in this report is based on township, range, and section subdivision of the Public Land Survey. It is the system used in all ground water investigations and for numbering all wells for which data are published or filed by the Department of Water Resources. In this report the number of a well, assigned in accordance with this system, is referred to as the State Well Number.

Under the system, each section is divided into 40-acre tracts lettered as follows:

Note that I and O are omitted in the grid above.

ERRATA SHEET

BULLETIN NO. 130-63, VOLUME II, APPENDIXES D AND E

1. The following diagram should have appeared in the final paragraph on page 152:

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

2. The symbol for "MONITORED WELL" was omitted from the legends of Plates E-1 and E-2. This symbol is a solid red circle corresponding to those shown as 23K1, 24B2, and 24L1 in Plate E-1 and as 15N1, 22B2, 21B1, and 21J1 on Plate E-2.

Wells are numbered within each 40-acre tract according to the chronological sequence in which they have been assigned State Well Numbers. For example, a well which has the number 16N/3E-17K1, M would be in Township 16 North, Range 3 East, Section 17, Mount Diablo Base and Meridian, and would be further designated as the first well assigned a State Well Number in tract K. Well numbers are referenced to the Humboldt Base and Meridian (H), the Mount Diablo Base and Meridian (M), or the San Bernardino Base and Meridian (S).

Acknowledgments

The extensive coverage of the Ground Water Quality Monitoring Program, in Northeastern California, is made possible through the cooperation of federal, state, and local agencies. The Department wishes to express appreciation for the valuable assistance and cooperation received from the following local agencies in addition to the federal and state agencies.

County Agencies

Butte County Farm Advisor
Colusa County Farm Advisor
Glenn County Farm Advisor
Placer County Farm Advisor
Sacramento County Farm Advisor
Shasta County Department of Water Resources
Sutter County Farm Advisor
Tehama County Farm Advisor
Yolo County Farm Advisor
Yuba County Farm Advisor

HIGH VALLEY (5-16)

High Valley is a nearly closed basin located approximately one mile north of the town of Clearlake Oaks in Lake County. The valley is about three miles in length and averages one mile in width.

Monitoring Program

The monitoring program was initiated in 1963 to determine the quality of ground water in the area and to detect significant changes. Three samples were collected in June. Plate E shows High Valley ground water basin and the location of sample wells.

Ground Water Development

An examination of well logs indicate the valley floor consists of clay, silt, sand, and gravel which appears to be an accumulation of material eroded from the surrounding hills. Fine grained particles of clay and silt dominate the center portion of the valley while much of the gravel is located near the periphery of the basin.

Evaluation of Ground Water

Ground water has been developed to satisfy the domestic needs of the few inhabitants and for limited agricultural use. The desire for more irrigation water has brought about the construction of deeper wells; however, water quality problems have caused abandonment of some of these wells due to highly mineralized waters.

Analyses of samples indicate the waters are magnesium bicarbonate in type with the deeper wells displaying higher mineral content. Well number 14N/8W-24B2, an irrigation well, contained 2.1 parts per million boron which is a class 3 water for agricultural use (injurious to unsatisfactory for most crops).

BURNS VALLEY (5-17)

Burns Valley is an elongated alluvial area located on the northeast shore of southern Clear Lake and encompasses approximately three square miles. The community of Clearlake Highlands occupies a sizeable portion of the valley.

Monitoring Program

The collection of ground water samples was initiated in 1963 to determine quality of ground water in the area and to detect significant changes. Four samples were collected in June. Plate E-2 shows Burns Valley ground water basin and the location of sample wells.

Ground Water Development

Well logs indicate the valley floor is composed of a surface alluvium of recent stream deposits which cover an older more indurated formation. These two strata appear to override sandstone and shales. Most water appears to be drawn from the surface alluvium.

Evaluation of Ground Water

Ground water has not been subject to intensive development as Clearlake Highlands has a water company which uses lake water as a domestic supply and the agricultural requirements within this valley are not great.

Analyses of samples indicated sodium or a combination of calcium and magnesium to be the dominant cation while bicarbonate was the dominant anion. One shallow well (25 feet) was observed to have 333 parts per million hardness and 1.3 parts per million boron; however, analyses of other samples were within the limits for the existing uses.

TABLE 1

ANALYSES OF GROUND WATER

1963

TABLE E-1

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million (equivalents per million)												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Analyzed by c
						Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]			Total ppm	N.C. ppm	
	MDB&M					CENTRAL VALLEY REGION (No. 5)																	
						GOOSE LAKE VALLEY (5-1)																	
Franks Brothers domestic	44N/13E-36A1	9-11-63	--	175	7.9	11 / 0.55	2.8 / 0.23	25 / 1.10	1.9 / 0.05	0.0 / 0.00	103 / 1.68	3.8 / 0.08	3.5 / 0.10	1.9 / 0.03	0.1 / 0.01	0.1	21		128	57	39	0	LL
H. J. Hacker domestic	44N/14E-7K1	9-11-63	--	380	8.4	39 / 1.94	16 / 1.33	23 / 1.00	1.3 / 0.03	3 / 0.10	215 / 3.52	5.8 / 0.12	6.0 / 0.17	17 / 0.27	0.1 / 0.01	0.1	40		272	23	163	0	LL
R. Jessup domestic	45N/13E-12L1	9-11-63	--	290	8.3	15 / 0.73	1.3 / 0.11	56 / 2.43	3.9 / 0.10	2 / 0.06	160 / 2.62	20 / 0.42	6.0 / 0.17	0.0 / 0.00	0.1 / 0.01	0.3	34		212	72	42	0	LL
C. Waid domestic	45N/14E-32L1	9-11-63	--	235	7.9	25 / 1.26	7.2 / 0.59	14 / 0.60	1.5 / 0.04	0.0 / 0.00	147 / 2.42	2.9 / 0.06	0.0 / 0.00	1.1 / 0.02	0.1 / 0.01	0.1	39		172	24	92	0	LL
M. Reed domestic	46N/14E-32J1	9-11-63	--	110	7.3	10 / 0.49	2.8 / 0.23	6.7 / 0.29	2.3 / 0.06	0.0 / 0.00	67 / 1.10	0.0 / 0.00	0.0 / 0.00	0.0 / 0.00	0.1 / 0.01	0.0	30		86	27	36	0	LL
C. R. Vincent domestic and stock	47N/14E-2H1	9-11-63	--	530	8.2	1.6 / 0.08	0.7 / 0.06	125 / 5.43	2.0 / 0.05	0.0 / 0.00	149 / 2.45	56 / 1.17	64 / 1.81	1.9 / 0.03	1.2 / 0.06	3.2	37		372	98	7	0	LL
L. L. Smith domestic	-14B2	9-11-63	--	145	7.0	17 / 0.87	4.3 / 0.35	6.0 / 0.26	1.6 / 0.04	0.0 / 0.00	84 / 1.38	1.4 / 0.03	0.0 / 0.00	8.8 / 0.14	0.1 / 0.01	0.1	26		114	17	61	0	LL
A. Greenwood domestic	48N/13E-20G1	9-11-63	--	440	8.4	58 / 2.89	19 / 1.59	10 / 0.43	3.7 / 0.09	4 / 0.14	236 / 3.86	8.6 / 0.18	5.3 / 0.15	34 / 0.55	0.1 / 0.01	0.1	32		316	9	224	24	LL
H. C. Wells irrigation	48N/14E-23K1	9-11-63	--	200	8.0	24 / 1.22	3.6 / 0.30	16 / 0.70	1.2 / 0.03	0.0 / 0.00	123 / 2.02	1.9 / 0.04	0.4 / 0.01	8.8 / 0.14	0.2 / 0.01	0.1	23		200	31	76	0	LL
C. M. Cloud domestic	-35A1	9-11-63	--	215	8.0	26 / 1.29	6.2 / 0.51	8.9 / 0.39	0.3 / 0.01	0.0 / 0.00	104 / 1.70	1.4 / 0.03	0.0 / 0.00	28 / 0.45	0.1 / 0.01	0.0	24		154	18	90	5	LL
C. M. Cloud irrigation and stock	-35A2	9-11-63	--	630	8.4	3.0 / 0.15	1.2 / 0.10	152 / 6.60	5.0 / 0.13	3 / 0.10	214 / 3.50	29 / 0.61	89 / 2.50	5.3 / 0.09	1.2 / 0.06	4.1	52		452	95	12	0	LL
						SOUTH FORK PIT RIVER VALLEY (5-2)																	
D. Flournoy domestic	39N/13E-6N1	9-12-63	--	203	7.7	8.4 / 0.42	1.9 / 0.16	31 / 1.35	5.9 / 0.15	0.0 / 0.00	108 / 1.77	4.6 / 0.10	4.1 / 0.12	1.2 / 0.02		0.0		Fe 0.04 (total) Al 0.19 Zn 0.14	156	65	29	0	DWR
N. Monroe stock	40N/12E-11F1	9-12-63	--	163	7.6	4.3 / 0.21	4.2 / 0.35	21 / 0.91	5.7 / 0.14	0.0 / 0.00	80 / 1.31	4.9 / 0.10	4.2 / 0.12	1.8 / 0.03		0.0		Fe 0.01 (total) Al 0.07	153	56	28	0	DWR
Pit River Ranch domestic	-25J1	9-12-63	--	429	8.1	17 / 0.85	6.7 / 0.55	64 / 2.78	9.9 / 0.25	0.0 / 0.00	228 / 3.74	16 / 0.33	8.1 / 0.23	0.9 / 0.01		0.2		Fe 0.03 (total Al 0.01 Zn 0.14	305	63	70	0	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as 0.0 / 0.00 except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
SOUTH FORK KIT RIVER VALLEY(5-6) (Cont.)																							
P. Meyers domestic and irrigation	41N/11E-2J1	9-11-63	--	263	7.8	15 / 0.75	1.6 / 0.13	31 / 1.35	13 / 0.33	0.0 / 0.00	120 / 1.97	13 / 0.27	7.4 / 0.21	3.0 / 0.05		0.0		Fe 0.06 (total) Al 0.04 Zn 0.52	221	43	44	0	DWR
Pacific Telephone and Telegraph domestic	41N/12E-15H1	9-12-63	--	216	7.7	12 / 0.60	1.2 / 0.10	29 / 1.26	8.0 / 0.20	0.0 / 0.00	106 / 1.74	7.4 / 0.15	7.4 / 0.21	1.1 / 0.02		0.2		Fe 0.12 (total) Al 0.06 As 0.01 Zn 0.71	188	58	35		DWR
Morgan Brothers domestic	41N/13E-18P1	9-10-63	--	938	8.0	103 / 5.14	50 / 4.13	20 / 0.87	11 / 0.28	0.0 / 0.00	264 / 4.33	267 / 5.56	13 / 0.37	4.1 / 0.07		0.2		Fe 0.38 (total) Al 0.15 As 0.01 Pb 0.01 Zn 0.42	722	18	464	248	DWR
J. H. Michael domestic	42N/10E-29H1	9-11-63	--	275	7.7	3.0 / 0.15	0.0 / 0.00	56 / 2.44	1.6 / 0.04	0.0 / 0.00	138 / 2.26	14 / 0.29	2.0 / 0.06	0.6 / 0.01		0.3		Fe 0.01 (total) Al 0.08 As 0.02	195	93	7	0	DWR
F. Martin domestic	42N/11E-19E1	9-11-63	--	471	7.7	2.2 / 0.11	0.1 / 0.01	99 / 4.31	9.5 / 0.24	0.0 / 0.00	233 / 3.82	22 / 0.46	6.9 / 0.19	0.8 / 0.01		0.2		Fe 0.02 (total) Al 0.06 Mn 0.01	353	92	6	0	DWR
L. Goings domestic and stock	-24A1	9-11-63	--	210	7.6	17 / 0.85	5.7 / 0.47	12 / 0.52	5.7 / 0.14	0.0 / 0.00	73 / 1.52	2.8 / 0.06	5.4 / 0.15	2.1 / 0.15		0.2		Fe 0.42 (total) Al 0.09 Cu 0.01 Pb 0.01 Zn 3.8	139	26	66	0	DWR
City of Alturas municipal	42N/12E-11Q1	9-10-63	--	485	8.0	26 / 1.30	5.4 / 0.44	59 / 2.57	14 / 0.36	0.0 / 0.00	174 / 2.85	32 / 0.67	34 / 0.96	2.2 / 0.04		0.7		Al 0.05 As 0.02 Pb 0.02 Zn 0.01	361	55	87	0	DWR
Younger domestic	42N/13E-31G1	9-10-63	--	580	8.2	19 / 0.95	6.7 / 0.55	102 / 4.44	12 / 0.31	0.0 / 0.00	359 / 5.88	6.1 / 0.13	3.8 / 0.11	1.4 / 0.02		0.3		Fe 0.10 (total) Al 0.08 Zn 0.02	404	71	79	0	DWR
E. Swanson domestic	-32G1	9-10-63	--	367	8.1	32 / 1.60	11 / 0.88	27 / 1.17	6.7 / 0.17	0.0 / 0.00	210 / 3.59	4.4 / 0.09	3.0 / 0.08	0.4 / 0.01		0.1		Fe 0.02 (total) Al 0.08 As 0.01 Zn 0.01	249	31	124	0	DWR
BIG VALLEY (9-4)																							
E. G. Babcock domestic	37N/7E-2D1	8-14-63	55	199	7.7	11 / 0.55	6.2 / 0.51	19 / 0.83	4.1 / 0.10	0.0 / 0.00	115 / 1.88	0.8 / 0.02	2.5 / 0.07	0.8 / 0.01		0.0		Fe 0.01 (total) Zn 0.05	173	43	53	0	DWR
W. H. Gerig domestic	38N/7E-2P1	8-14-63	65	515	8.0	20 / 1.45	19 / 1.55	40 / 1.74	12 / 0.31	0.0 / 0.00	230 / 3.77	2.8 / 0.06	39 / 1.10	7.7 / 0.12		0.0		Fe 0.31 (total) Mn 1.2 Zn 0.15	347	34	150	0	DWR
F. Leonard domestic	38N/8E-17K1	8-14-63	--	221	8.0	13 / 0.65	12 / 0.97	14 / 0.56	2.9 / 0.07	0.0 / 0.00	182 / 2.00	5.1 / 0.11	2.5 / 0.07	0.2 / 0.01		0.2		Fe 0.16 (total) Al 0.04 Mn 0.17 Zn 0.02	178	35	61	0	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
	MDB&M							BIG VALLEY (5-4) (Cont.)															
M. Walsh domestic	-30R1	8-14-63	--	696	8.1	45 / 2.24	38 / 3.09	23 / 1.00	6.4 / 0.16	0.0 / 0.00	132 / 2.16	26 / 0.54	54 / 1.52	122 / 1.97		0.2		Fe 0.01 (total) Al 0.04 As 0.05 Zn 0.16	460	15	267	159	DWR
J. E. Albaugh domestic and stock	38N/9E-8E2	8-14-63	--	368	8.0	27 / 1.35	14 / 1.15	22 / 0.96	5.9 / 0.15	0.0 / 0.00	154 / 2.52	8.7 / 0.18	16 / 0.45	20 / 0.32		0.2		Fe 0.08 (total) Al 0.10 As 0.01 Cu 0.01 Mn 0.10 Zn 0.15	277	26	125	0	DWR
A. L. Knudson domestic	-21L1	8-14-63	--	338	7.6	17 / 0.85	4.2 / 0.35	46 / 2.00	8.6 / 0.22	0.0 / 0.00	193 / 3.16	1.8 / 0.04	4.4 / 0.12	1.2 / 0.02		0.2		Fe 0.02 (total) Al 0.06 Cu 0.01 Mn 0.04 Zn 0.03	269	58	60	0	DWR
D. Yowell domestic	39N/7E-13Q1	8-14-63	62	197	7.6	9.0 / 0.45	2.3 / 0.19	30 / 1.30	2.1 / 0.05	0.0 / 0.00	100 / 1.64	8.7 / 0.18	4.6 / 0.13	0.5 / 0.01		0.0		Fe 0.18 (total) Mn 0.08 Zn 0.03	185	65	32	0	DWR
L. Roberts domestic	-14R1	8-14-63	--	2590	8.4	211 / 10.53	115 / 9.45	179 / 7.79	1.5 / 0.04	5 / 0.17	512 / 8.39	166 / 3.46	320 / 9.03	402 / 6.48		0.1		Al 0.06 Zn 0.52	1700	28	1000	572	DWR
R. Holmes domestic	39N/8E-23A2	8-14-63	--	234	7.7	11 / 0.55	6.0 / 0.49	23 / 1.00	5.4 / 0.14	0.0 / 0.00	97 / 1.59	16 / 0.33	5.4 / 0.15	3.2 / 0.05		0.2		Fe 0.40 (total) Al 0.14 As 0.03 Mn 0.17 Zn 0.44	200	46	52	0	DWR
R. Swain domestic	39N/9E-28F2	8-14-63	--	334	8.0	20 / 1.00	9.0 / 0.74	33 / 1.44	6.7 / 0.17	0.0 / 0.00	166 / 2.72	8.2 / 0.17	8.4 / 0.24	8.4 / 0.14		0.2		Fe 0.03 (total) Al 0.03 Mn 0.01 Zn 0.26	223	43	87	0	DWR
								FALL RIVER VALLEY (5-5)															
W. L. Bickel domestic	37N/4E-1K1	8-13-63	--	775	7.8	48 / 2.39	34 / 2.84	95 / 4.13	4.3 / 0.11	0.0 / 0.00	211 / 8.39	0.0 / 0.00	0.0 / 0.00	49 / 0.79	0.1 / 0.01	0.0	42		594	44	262	0	LL
W. C. Moen domestic	37N/5E-14R1	8-13-63	--	186	8.1	1.6 / 0.08	0.5 / 0.04	42 / 1.83	0.9 / 0.02	0.0 / 0.00	106 / 1.74	3.4 / 0.07	4.3 / 0.12	0.0 / 0.00	0.1 / 0.01	0.1	29		136	93	6	0	LL
R. Reynolds irrigation	-19P2	8-13-63	59	430	7.6	19 / 0.96	16 / 1.34	56 / 2.43	5.8 / 0.15	0.0 / 0.00	248 / 4.06	4.8 / 0.10	1.8 / 0.05	3.2 / 0.52	0.2 / 0.01	0.1	52		180	54	115	0	LL
O. Crum irrigation	-24F1	8-13-63	62	185	7.8	14 / 0.69	3.9 / 0.32	22 / 0.95	2.1 / 0.05	0.0 / 0.00	109 / 1.78	1.4 / 0.03	0.0 / 0.00	9.2 / 0.15	0.1 / 0.01	0.0	28		132	47	54	0	LL
Unknown stock	37N/6E-6D1	8-13-63	57	300	8.1	36 / 1.76	13 / 1.06	14 / 0.61	3.2 / 0.08	0.0 / 0.00	216 / 3.53	0.0 / 0.00	0.0 / 0.00	0.0 / 0.00	0.1 / 0.01	0.1	42		216	11	142	0	LL
L. A. Carpenter domestic	-19L1	8-13-63	--	195	7.7	24 / 1.18	3.5 / 0.29	11 / 0.48	2.3 / 0.06	0.0 / 0.00	101 / 1.65	3.4 / 0.07	0.0 / 0.00	14 / 0.23	0.1 / 0.01	0.0	38		150	24	73	0	LL
R. L. Clark domestic	-29B1	8-13-63	--	280	7.8	26 / 1.28	11 / 0.93	14 / 0.60	3.6 / 0.09	0.0 / 0.00	132 / 2.16	4.8 / 0.10	1.4 / 0.04	30 / 0.48	0.8 / 0.04	0.0	41		214	21	111	2	LL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
	MDB&M							FALL RIVER VALLEY (5-5) (Cont.)															
R. A. Peters domestic	38N/3E-24F1	8-13-63	--	146	7.7	13 / 0.65	8.0 / 0.66	4.5 / 0.20	1.0 / 0.03	0.0 / 0.00	90 / 1.48	0.0 / 0.00	0.0 / 0.00	1.3 / 0.02	0.1 / 0.01	0.0	29		106	13	66	0	LL
E. B. Johnson domestic	38N/4E-30H1	8-13-63	57	280	8.0	25 / 1.27	17 / 1.41	12 / 0.56	1.7 / 0.04	0.0 / 0.00	187 / 3.06	1.4 / 0.03	5.7 / 0.16	0.0 / 0.00	0.1 / 0.01	0.0	29		186	16	134	0	LL
								REDDING BASIN (5-6)															
Cottonwood Water Department municipal	29N/4W-2M1	5-27-63	68	193	8.0	10 / 0.50	9.7 / 0.80	16 / 0.70	1.0 / 0.02	0.0 / 0.00	108 / 1.77	2.5 / 0.05	4.0 / 0.11	2.3 / 0.04	0.2 / 0.01	0.04	48		143	35	65	0	DWR
D. F. Park domestic and irrigation	30N/3W-4M1	5-27-63	66	192	8.0	12 / 0.60	11 / 0.94	9.4 / 0.41	1.9 / 0.05	0.0 / 0.00	110 / 1.80	2.0 / 0.04	3.1 / 0.09	2.3 / 0.04	0.2 / 0.01	0.04	84		185	20	77	0	DWR
D. Martin domestic	-34D1	5-27-63	62	264	8.2	12 / 0.60	21 / 1.76	9.2 / 0.40	1.0 / 0.02	0.0 / 0.00	149 / 2.42	7.2 / 0.15	3.1 / 0.09	4.0 / 0.06	0.1 / 0.00	0.09	44		178	14	118	0	DWR
T. Loftus irrigation	30N/4W-1E1	6-24-63	66	152	7.7	8.0 / 0.40	8.0 / 0.66	8.2 / 0.40	0.6 / 0.02	0.0 / 0.00	64 / 1.05	6.9 / 0.14	6.6 / 0.19	3.6 / 0.06	0.1 / 0.00	0.09	35		113	27	53	1	DWR
Shasta County irrigation	30N/4W-16H1	5-27-63	62	252	8.1	17 / 0.85	14 / 1.19	12 / 0.52	1.4 / 0.04	0.0 / 0.00	132 / 2.16	2.7 / 0.20	6.7 / 0.19	1.9 / 0.03	0.2 / 0.01	0.08	58		191	20	102	0	DWR
Happy Valley School domestic and irrigation	30N/5W-15R1	5-27-63	66	141	7.9	9.6 / 0.48	7.3 / 0.60	17 / 0.74	0.8 / 0.02	0.0 / 0.00	93 / 1.52	0.5 / 0.20	2.5 / 0.07	0.0 / 0.00	0.3 / 0.02	0.02	44		179	40	54	0	DWR
C. A. Young domestic	-17R1	5-27-63	66	148	7.8	8.1 / 0.40	4.4 / 0.36	16 / 0.70	0.6 / 0.02	0.0 / 0.00	82 / 1.34	0.0 / 0.00	4.4 / 0.12	1.0 / 0.02	0.3 / 0.02	0.06	52		137	47	38	0	DWR
R. M. Gilbert irrigation	31N/3W-7K1	6-25-63	67	214	8.1	13 / 0.65	9.6 / 0.79	18 / 0.78	1.4 / 0.04	0.0 / 0.00	142 / 2.16	1.0 / 0.02	3.5 / 0.08	0.0 / 0.00	0.2 / 0.01	0.09	54		162	34	72	0	DWR
Gimblin domestic and irrigation	-12E1	5-27-63	70	201	8.0	19 / 0.95	8.4 / 0.69	7.7 / 0.33	2.1 / 0.05	0.0 / 0.00	106 / 1.74	4.6 / 0.10	4.4 / 0.12	4.2 / 0.07	0.1 / 0.00	0.09	72		180	16	82	0	DWR
Enterprise School District domestic and irrigation	31N/4W-7A1	6-24-63	66	220	8.1	20 / 1.00	8.3 / 0.68	14 / 0.61	1.0 / 0.02	0.0 / 0.00	133 / 2.15	1.6 / 0.03	3.2 / 0.09	0.3 / 0.00	0.2 / 0.01	0.08	20		148	26	84	0	DWR
L. A. Stayer domestic and irrigation	-15B1	6-24-63	69	220	8.0	9.9 / 0.49	11 / 0.93	18 / 0.78	1.2 / 0.03	0.0 / 0.00	119 / 1.95	0.5 / 0.01	9.8 / 0.28	0.3 / 0.00	0.4 / 0.02	0.15	50		168	39	71	0	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as 0.0/0.00 except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
	MDB&M					REDDING BASIN (5-B) (Cont.)																	
P. S. Templeton domestic and irrigation	-16Q1	6-24-63	64	144	7.8	7.5 / 0.37	8.1 / 0.67	2.2 / 0.10	0.6 / 0.02	0.0 / 0.00	77 / 1.26	1.6 / 0.03	3.6 / 0.10	3.3 / 0.05	0.2 / 0.01	0.04	31		108	27	52	0	DWR
California Motel domestic and irrigation	31N/5W-13D1	5-27-63	68	440	7.7	14 / 0.70	6.3 / 0.52	65 / 2.83	1.4 / 0.04	0.0 / 0.00	142 / 2.33	0.0 / 0.00	65 / 1.83	1.3 / 0.02	0.4 / 0.02	0.48	51		278	69	61	0	DWR
U. S. Department of Interior domestic and irrigation	-25K1	5-27-63	70	236	7.9	7.8 / 0.39	3.3 / 0.27	40 / 1.74	0.4 / 0.02	0.0 / 0.00	115 / 1.88	0.0 / 0.00	19 / 0.54	0.5 / 0.01	0.3 / 0.02	0.07	38		160	72	33	0	DWR
W. H. Johnson domestic and irrigation	32N/3W-17E2	6-24-63	62	4320	8.3	53 / 2.64	5.1 / 0.42	862 / 37.50	3.0 / 0.08	0.0 / 0.00	167 / 2.74	102 / 4.00	1200 / 33.85	3.0 / 0.05	1.2 / 0.06	19.0	15		2240	92	153	16	DWR
W. E. Pike domestic and irrigation	-20P1	6-24-63	63	182	7.8	14 / 0.70	6.1 / 0.50	12 / 0.50	1.4 / 0.04	0.0 / 0.00	73 / 1.20	8.1 / 0.17	8.9 / 0.25	5.1 / 0.08	0.1 / 0.00	0.03	27		122	31	60	1	DWR
C. Boyle domestic	-32J2	6-24-63	67	350	8.2	25 / 1.25	11 / 0.93	30 / 1.30	2.3 / 0.06	0.0 / 0.00	159 / 2.61	8.2 / 0.17	24 / 0.68	4.8 / 0.08	0.0 / 0.00	0.16	60		242	37	109	0	DWR
V. Phipps irrigation	-32L1	6-24-63	68	761	7.9	18 / 0.90	6.8 / 0.56	123 / 5.35	2.4 / 0.06	0.0 / 0.00	115 / 1.88	8.6 / 0.18	175 / 4.94	0.9 / 0.01	0.6 / 0.03	1.6	46		435	78	73	0	DWR
Coldiron irrigation	-35C1	5-27-63	66	340	8.1	16 / 0.80	9.5 / 0.78	38 / 1.65	2.5 / 0.06	0.0 / 0.00	130 / 2.13	2.1 / 0.04	42 / 1.18	0.6 / 0.01	0.2 / 0.01	0.12	64		243	50	79	0	DWR
Hills & Dales Rest Home irrigation	32N/4W-14F2	6-24-63	62	110	7.5	9.4 / 0.47	2.8 / 0.23	8.2 / 0.36	0.8 / 0.02	0.0 / 0.00	48 / 0.79	3.4 / 0.07	5.0 / 0.14	3.4 / 0.05	0.0 / 0.00	0.13	32		89	33	35	0	DWR
W. Ross domestic	-16B2	6-24-63	75	138	6.9	7.3 / 0.36	5.4 / 0.44	9.4 / 0.41	0.3 / 0.01	0.0 / 0.00	19 / 0.31	1.2 / 0.02	10 / 0.28	23 / 0.53	0.0 / 0.00	0.44	21		114	34	40	4	DWR
E. Jones domestic	-20G2	6-24-63	73	559	8.1	4.0 / 0.20	0.7 / 0.06	114 / 4.96	1.7 / 0.04	0.0 / 0.00	159 / 2.61	0.8 / 0.02	96 / 2.71	1.6 / 0.02	0.3 / 0.02	2.0	45		351	94	13	0	DWR
Columbia School District domestic	32N/4W-34P1	6-24-63	70	312	8.1	18 / 0.90	6.3 / 0.52	38 / 1.65	1.4 / 0.04	0.0 / 0.00	137 / 2.24	0.8 / 0.02	31 / 0.87	1.0 / 0.02	0.2 / 0.01	0.42	34		198	52	71	0	DWR
H. Snow Jr. domestic	32N/5W-26M1	6-6-63	67	258	7.9	20 / 1.00	8.0 / 0.66	21 / 0.91	1.0 / 0.02	0.0 / 0.00	114 / 1.87	26 / 0.54	7.0 / 0.20	1.9 / 0.03	0.3 / 0.02	0.36	21		164	33	83	0	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as 0.0 / 0.00 except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (No)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
	MDB&M								LAKE ALMANOR VALLEY (5-7)														
Denver Guess domestic	28N/7E-5L1	8-13-63	--	90	7.2	7.5 / 0.37	2.6 / 0.21	5.1 / 0.22	2.3 / 0.06	0.0 / 0.00	44 / 0.72	1.5 / 0.03	1.9 / 0.05	1.4 / 0.02		0.0			91	[illegible]	29	0	DWR
Denver Guess domestic	-5N1	8-13-63	--	85	7.3	7.0 / 0.35	2.6 / 0.21	4.8 / 0.21	2.0 / 0.05	0.0 / 0.00	47 / 0.77	0.5 / 0.01	0.6 / 0.02	0.2 / 0.00		0.0			90	26	28	0	DWR
William Caesar domestic	-7A1	8-13-63	--	115	7.8	12 / 0.59	2.7 / 0.22	6.7 / 0.29	2.3 / 0.06	0.0 / 0.00	71 / 1.16	1.9 / 0.04	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	26		80	25	40	0	LL
Sam Harreld domestic	-7H1	8-13-63	--	147	7.9	17 / 0.83	5.1 / 0.42	4.5 / 0.20	2.9 / 0.07	0.0 / 0.00	42 / 1.50	1.0 / 0.02	1.8 / 0.05	0.0 / 0.00	0.1 / 0.00	0.0	26		104	13	62	0	LL
H. E. Rogers domestic	-18B1	8-13-63	--	310	8.1	34 / 1.70	18 / 1.47	6.7 / 0.29	5.4 / 0.14	0.0 / 0.00	223 / 3.65	0.0 / 0.00	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	27		[illegible]	81	158	0	LL
J. W. Stone domestic	-18D1	8-13-63	--	62	7.3	8.2 / 0.41	0.7 / 0.0	2.8 / 0.12	1.8 / 0.05	0.0 / 0.00	40 / 0.65	1.0 / 0.02	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	32		52	19	20	0	LL
State of California domestic	-19M1	8-13-63	--	51	7.1	6.4 / 0.32	0.5 / 0.04	2.8 / 0.12	1.4 / 0.04	0.0 / 0.00	34 / 0.56	0.5 / 0.01	0.0 / 0.00	0.8 / 0.01	0.1 / 0.00	0.0	19		48	23	18	0	LL
									INDIAN VALLEY (8-9)														
Carl Evens domestic	26N/10E-4E1	8-14-63	--	165	8.0	7.2 / 0.36	7.7 / 0.63	22 / 0.96	0.2 / 0.01	0.0 / 0.00	119 / 1.95	0.0 / 0.00	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	21		114	49	50	0	LL
C. D. Doyle domestic	-6E1	8-14-63	--	472	7.8	2.8 / 0.14	0.5 / 0.04	107 / 4.65	0.5 / 0.01	0.0 / 0.00	145 / 2.22	1.0 / 0.02	89 / 2.50	1.8 / 0.03	0.4 / 0.02	1.2	21		304	[illegible]	9	0	LL
Toscani Bros. domestic	-16F1	8-14-63	--	465	8.1	32 / 1.62	16 / 1.29	46 / 2.00	0.6 / 0.02	0.0 / 0.00	211 / 3.47	19 / 0.40	35 / 0.98	1.3 / 0.02	0.1 / 0.00	0.2	28		278	41	145	0	LL
State of California domestic	-19M1	8-14-63	--	252	8.0	23 / 1.15	11 / 0.94	12 / 0.52	0.3 / 0.01	0.0 / 0.00	153 / 2.52	1.9 / 0.04	0.0 / 0.00	0.0 / 0.00	0.2 / 0.01	0.0	17		136	20	105	0	LL
C. Bainbridge domestic	-23A1	8-14-63	--	181	7.7	23 / 1.13	6.3 / 0.5[illegible]	4.4 / 0.19	1.2 / 0.03	0.0 / 0.00	108 / 1.76	0.5 / 0.01	0.0 / 0.00	2.2 / 0.04	0.1 / 0.00	0.0	13		96	10	83	0	LL
J. Young domestic	-27R1	8-14-63	--	114	7.7	12 / 0.58	2.4 / 0.20	7.2 / 0.31	2.0 / 0.05	0.0 / 0.00	66 / 1.08	0.0 / 0.00	0.0 / 0.00	1.3 / 0.02	0.1 / 0.00	0.1	15		70	27	39	0	LL
C. Johnson domestic	-28M1	8-14-63	--	156	7.8	15 / 0.73	6.7 / 0.55	9.0 / 0.39	0.3 / 0.01	0.0 / 0.00	109 / 1.64	0.0 / 0.00	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	24		108	23	64	0	LL
F. Yanez domestic	-30F1	8-14-63	--	185	7.8	25 / 1.25	3.2 / 0.26	8.9 / 0.39	0.4 / 0.01	0.0 / 0.00	111 / 1.82	6.2 / 0.13	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	8.9		108	20	75	0	LL

a. Determined by addition of constituents
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (PCC), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
	MDB&M									AMERICAN VALLEY (5-10)													
J. Boynton domestic	24N/9E-2A1	8-14-63	--	200	6.9	10 / 0.51	12 / 0.98	12 / 0.50	1.0 / 0.03	0.0 / 0.00	122 / 2.00	3.8 / 0.08	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	19		112	25	75	0	LL
Greys Flower Gardens domestic	-10H1	8-13-63	--	147	7.7	25 / 1.24	1.7 / 0.14	2.8 / 0.12	0.4 / 0.01	0.0 / 0.00	87 / 1.44	4.4 / 0.09	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	12		78	8	69	0	LL
R. T. Kard domestic	-10L1	8-13-63	--	35	6.8	4.4 / 0.22	0.5 / 0.04	0.6 / 0.03	0.1 / 0.00	0.0 / 0.00	15 / 0.25	3. / 0.07	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	6.7		36	10	13	0	LL
D. E. Bellamy domestic	-16N1	8-13-63	--	84	7.2	11 / 0.55	1.9 / 0.16	2.8 / 0.12	0.4 / 0.01	0.0 / 0.00	41 / 0.66	4.8 / 0.10	0.0 / 0.00	5.2 / 0.08	0.1 / 0.00	0.0	10		57	14	35	2	LL
R. W. Asplund domestic	24N/10E-6N1	8-14-63	--	270	8.2	24 / 1.17	10 / 0.80	24 / 1.05	0.7 / 0.02	0.0 / 0.00	177 / 2.90	1.4 / 0.03	5.3 / 0.15	0.0 / 0.00	0.1 / 0.00	0.1	17		160	35	98	0	LL
B. D. McRoberts domestic	-8L1	8-14-63	--	250	7.9	28 / 1.38	12 / 1.00	8.3 / 0.36	0.4 / 0.01	0.0 / 0.00	156 / 2.56	7.1 / 0.19	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	19		148	13	119	0	LL
M. A. Haney domestic	-18D1	8-14-63	--	95	7.5	14 / 0.68	2.7 / 0.22	2.3 / 0.10	0.2 / 0.01	0.0 / 0.00	52 / 0.97	4.2 / 0.09	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	9.1		62	10	45	0	LL
B. Williams domestic	-20D1	8-14-63	--	40	7.2	3.2 / 0.16	1.3 / 0.11	3.2 / 0.14	0.1 / 0.00	0.0 / 0.00	17 / 0.29	4.3 / 0.09	0.0 / 0.00	1.2 / 0.02	0.1 / 0.00	0.0	8.0		34	34	13	0	LL
										MOHAWK VALLEY (9-11)													
R. Schoensee domestic	22N/12E-9A1	8-21-63	--	249	8.0	16 / 0.80	13 / 1.13	16 / 0.70	4.4 / 0.11	0.0 / 0.00	110 / 1.95	1.0 / 0.02	0.0 / 0.00	40 / 0.65	0.2 / 0.01	0.0	41		208	26	97	0	LL
Mr. Sherrad domestic	22N/13E-19N1	8-21-63	--	220	8.0	21 / 1.04	7.8 / 0.64	15 / 0.65	3.6 / 0.09	0.0 / 0.00	138 / 2.27	6.2 / 0.13	3.9 / 0.11	0.0 / 0.00	0.2 / 0.01	0.1	27		162	27	84	0	LL
W. A. Barks domestic	-30R1	8-21-63	--	350	7.9	15 / 0.75	9.4 / 0.77	46 / 2.00	2.3 / 0.06	0.0 / 0.00	108 / 1.76	67 / 1.40	18 / 0.50	0.0 / 0.00	0.2 / 0.01	0.4	40		246	56	70	8	LL
										SIERRA VALLEY (2-12)													
R. Bradley domestic	20N/14E-4Q2	8-20-63	--	188	8.1	17 / 0.83	7.5 / 0.62	13 / 0.55	3.8 / 0.10	0.0 / 0.00	129 / 2.12	0.5 / 0.01	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	27		134	26	72	8	LL
G. McMillen domestic	21N/14E-15J1	8-20-63	--	415	8.2	4.6 / 0.23	9.1 / 0.75	77 / 3.35	4.4 / 0.11	0.0 / 0.00	135 / 2.22	0.0 / 0.00	55 / 1.55	22 / 0.32	0.4 / 0.02	0.1	42		308	76	49	0	LL
G. Van Vleck domestic	-22L1	8-20-63	--	750	8.2	33 / 1.66	17 / 1.42	105 / 4.55	11 / 0.29	0.0 / 0.00	195 / 3.25	29 / 0.61	145 / 4.10	2.5 / 0.04	0.1 / 0.00	0.7	33		488	57	154	0	LL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
	MDB&M					SIERRA VALLEY (5-12) (Cont.)																	
J. Berutti domestic	21N/14E-29J1	8-20-63	--	220	8.2	21 / 1.05	12 / 1.03	9.4 / 0.41	0.6 / 0.02	0.0 / 0.00	156 / 2.56	0.5 / 0.01	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.1	30		150	16	104	0	LL
P. A. Torri domestic	-36K1	8-20-63	--	183	7.7	17 / 0.87	8.1 / 0.67	11 / 0.48	2.0 / 0.05	0.0 / 0.00	122 / 2.00	2.4 / 0.05	1.1 / 0.03	2.0 / 0.05	0.1 / 0.00	0.0	22		136	23	77	0	LL
E. Filipini domestic	21N/15E-5D1	8-20-63	--	1480	8.0	14 / 0.70	1.9 / 0.16	335 / 14.55	8.0 / 0.21	0.0 / 0.00	130 / 2.14	192 / 4.02	321 / 9.05	11 / 0.18	1.0 / 0.05	5.7	61		1064	93	43	0	LL
J. Dandua domestic and stock	-9Q3	8-20-63	--	215	8.0	11 / 0.57	6.3 / 0.52	28 / 1.20	4.7 / 0.12	0.0 / 0.00	128 / 2.10	11 / 0.22	0.0 / 0.00	3.4 / 0.0	0.1 / 0.00	0.1	42		180	50	55	0	LL
Mrs. Havey domestic and stock	22N/14E-14F	8-20-63	--	156	8.0	15 / 0.73	6.7 / 0.55	9.4 / 0.41	1.2 / 0.03	0.0 / 0.00	104 / 1.70	0.0 / 0.00	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.1	35		124	24	64	0	LL
J. Roberti domestic and stock	22N/15E-11F1	8-20-63	--	530	8.2	5.6 / 0.28	4.6 / 0.38	117 / 5.10	6.5 / 0.17	0.0 / 0.00	252 / 4.14	5.8 / 0.12	39 / 1.10	22 / 0.47	0.8 / 0.04	1.1	76		414	86	33	0	LL
Huntly Bros. domestic and stock	-12B1	8-20-63	--	171	7.5	4.6 / 0.23	3.6 / 0.30	26 / 1.13	5.7 / 0.15	0.0 / 0.00	47 / 0.76	1.4 / 0.03	0.0 / 0.00	57 / 0.92	0.8 / 0.04	0.1	62		200	62	27	0	LL
P. R. Scolari domestic and stock	-17C3	8-20-63	--	330	8.0	4.0 / 0.27	1.2 / 0.10	71 / 3.10	2.1 / 0.05	0.0 / 0.00	138 / 2.27	0.5 / 0.01	25 / 0.70	21 / 0.34	0.4 / 0.02	1.0	59		274	90	15	0	LL
Lucky Hereford Ranch domestic	-26K2	8-20-63	--	1550	8.4	35 / 1.73	56 / 4.62	277 / 12.05	2.0 / 0.05	16 / 0.52	362 / 5.94	332 / 6.92	163 / 4.58	13 / 0.21	0.2 / 0.01	0.1	33		1081	65	317	0	LL
C. D. Franchini stock	22N/16E-5N2	8-20-63	73	195	7.9	4.4 / 0.22	3.3 / 0.27	31 / 1.35	3.5 / 0.09	0.0 / 0.00	117 / 1.91	0.5 / 0.01	1.8 / 0.05	0.0 / 0.00	0.6 / 0.03	0.1	58		150	70	25	0	LL
Mervino Air Service domestic	23N/14E-25G1	8-20-63	--	430	8.2	43 / 2.16	17 / 1.43	21 / 0.90	0.3 / 0.01	0.0 / 0.00	185 / 3.04	10 / 0.21	12 / 0.32	48 / 0.77	0.1 / 0.00	1.7	32		298	20	180	28	LL
A. Folchi domestic and stock	-35L1	8-20-63	--	735	7.8	21 / 1.04	1.7 / 0.14	145 / 6.30	1.7 / 0.04	0.0 / 0.00	99 / 1.62	107 / 2.23	122 / 3.43	0.0 / 0.00	0.1 / 0.00	1.5	15		462	84	59	0	LL
R. A. Swartz domestic	23N/15E-28H4	8-20-63	--	290	8.1	32 / 1.96	6.7 / 0.55	12 / 0.52	4.0 / 0.10	0.0 / 0.00	181 / 2.95	0.5 / 0.01	0.0 / 0.00	13 / 0.20	0.1 / 0.00	0.1	42		216	17	125	0	LL
Plumas County stock	-35C1	8-20-63	--	325	7.6	7.6 / 0.38	4.3 / 0.35	58 / 2.50	5.6 / 0.14	0.0 / 0.00	80 / 1.31	1.0 / 0.02	43 / 1.20	43 / 0.69	1.0 / 0.05	1.0	58		288	74	37	0	LL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)
ANALYSES OF GROUND WATER
1963

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
	MDB&M																						
						UPPER LAKE VALLEY (5-13)																	
Mr. Overington domestic	14N/9W-6F2	6-10-63	68	45	6.9			2.0 / 0.09		0.0 / 0.00	11 / 0.18		0.4 / 0.01							23	15	6	DWR
L. J. Skaggs irrigation	15N/9W-6P1	6-20-63	63	186	7.6			7.4 / 0.32		0.0 / 0.00	96 / 1.57		4.1 / 0.12							16	81	3	DWR
Upper Lake Cemetary Dist. irrigation	-7B	6-10-63	63	371	8.2	27 / 1.35	23 / 1.87	19 / 0.83	0.9 / 0.02	0.0 / 0.00	231 / 3.79	3.4 / 0.07	5.5 / 0.16	0.4 / 0.01	0.2 / 0.01	0.4	37		221	20	161	0	DWR
G. Bowers domestic	-17P1	6-10-63	--	412	8.3			14 / 0.61		0.0 / 0.00	262 / 4.31		3.5 / 0.10							13	206	0	DWR
E. Vehard domestic	-31P1	6-10-63	--	168	7.2			10 / 0.44		0.0 / 0.00	93 / 1.52		3.7 / 0.10							25	67	0	DWR
E. Lewis domestic and stock	15N/10W-3C1	6-10-63	--	411	8.0			8.7 / 0.38		0.0 / 0.00	218 / 3.57		7.6 / 0.21							8	205	26	DWR
L. Pecinovsky domestic	-3J1	6-10-63	--	536	8.2	30 / 1.50	40 / 3.30	20 / 0.87	2.0 / 0.05	0.0 / 0.00	220 / 3.60	57 / 1.19	25 / 0.70	2.5 / 0.04	0.1 / 0.00	0.1	14		313	15	240	60	DWR
B. Dunton not used	-10E1	6-10-63	63	2250	8.2	24 / 1.20	8.0 / 0.66	446 / 19.40	2.6 / 0.07	0.0 / 0.00	273 / 4.47	0.0 / 0.00	566 / 15.97	1.0 / 0.02	1.7 / 0.09	79	11		1430	91	93	0	DWR
Lake County Cannery industrial	-12K2	6-10-63	--	184	7.8			6.6 / 0.29		0.0 / 0.00	104 / 1.70		2.7 / 0.08							16	79	0	DWR
C. W. Fahien domestic	-13A1	6-10-63	68	214	8.2			13 / 0.56		0.0 / 0.00	133 / 2.18		1.6 / 0.04							24	91	0	DWR
H. Jarvis irrigation	-24H1	6-10-63	--	462	8.4			35 / 1.52		5 / 0.16	236 / 3.87		22 / 0.62							31	185	0	DWR
A. Santos domestic	16N/9W-31L3	6-10-63	--	206	8.0			8.2 / 0.36		0.0 / 0.00	123 / 2.02		1.7 / 0.05							17	90	0	DWR
						KELSEYVILLE VALLEY (5-15)																	
R. Field irrigation	13N/9W-2K2	6-20-63	62	613	8.4			13 / 0.56		6 / 0.20	350 / 5.74		13 / 0.37							8	318	15	DWR
C. Benson irrigation	-3C1	6-20-63	62	360	8.0			7.4 / 0.32		0.0 / 0.00	200 / 3.28		4.8 / 0.14							8	175	11	DWR
C. W. Butler irrigation	-6C1	6-10-63	62	916	8.4			25 / 1.09		7 / 0.24	543 / 8.90		25 / 0.70							10	492	35	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D W R) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C ppm	Analyzed by c
	MDB&M																						
						KELSEYVILLE VALLEY (5-15) (Cont.)																	
Davidson irrigation	13N/9W-8C1	6-11-63	60	578	8.3	30 / 1.50	53 / 4.39	12 / 0.52	0.4 / 0.01	0.0 / 0.00	271 / 4.44	60 / 1.25	2.4 / 0.20	17 / 0.27	0.1 / 0.00	0.3	25		351	8	295	73	DWR
H. E. Marschall domestic	-8N1	6-11-63	--	248	8.3			10 / 0.44		0.0 / 0.00	154 / 2.52		3.1 / 0.09							16	114	0	DWR
L. Wright irrigation	-12M1	6-11-63	63	464	8.1			16 / 0.70		0.0 / 0.00	274 / 4.49		18 / 0.51							14	216	0	DWR
B. Henderson domestic	-16D2	6-11-63	--	527	8.1	41 / 2.04	35 / 2.86	14 / 0.61	0.9 / 0.02	0.0 / 0.00	238 / 3.90	38 / 0.79	16 / 0.45	24 / 0.39	0.1 / 0.00	0.2	21		298	11	245	50	DWR
I. Morrison domestic and irrigation	14N/9W-32J1	6-11-63	--	608	8.4			15 / 0.65		8 / 0.27	374 / 6.13		13 / 0.37							9	328	9	DWR
I. Morrison irrigation	-32J2	6-20-63	64	541	8.1			14 / 0.61		0.0 / 0.00	319 / 5.23		8.9 / 0.25							10	272	10	DWR
						HIGH VALLEY (5-16)																	
G. R. Mitchell stock	14N/8W-23K1	6-11-63	61	309	7.9	15 / 0.75	15 / 1.23	21 / 0.91	6.9 / 0.18	0.0 / 0.00	132 / 2.16	15 / 0.31	17 / 0.48	3.2 / 0.05	0.1 / 0.01	0.0	27		179	30	100	1	DWR
High Valley Ranch irrigation	-24B2	6-12-63	72	752	8.4	19 / 0.95	62 / 5.12	61 / 2.65	4.4 / 0.11	8 / 0.27	402 / 6.60	1.6 / 0.03	12 / 0.34	5.4 / 0.09	0.2 / 0.02	2.1	81		468	30	304	1	DWR
N. Stone irrigation	-24L1	6-11-63	69	703	8.2	24 / 1.20	53 / 4.37	52 / 2.26	4.2 / 0.11	0.0 / 0.00	430 / 7.05	0.0 / 0.00	7.7 / 0.22	25 / 0.40	0.2 / 0.01	0.7	101		448	28	279	0	DWR
						BUENA VALLEY (5-17)																	
T. Barrick domestic	13N/7W-15N	6-11-63	--	287	7.9	17 / 0.85	9.4 / 0.77	33 / 1.44	1.1 / 0.03	0.0 / 0.00	164 / 2.69	2.0 / 0.04	8.9 / 0.17	5.1 / 0.08	0.7 / 0.04	1.0	47		198	47	81	0	DWR
F. Young domestic	-21B	6-11-63	--	211	7.6	16 / 0.80	10 / 0.80	10 / 0.44	0.4 / 0.01	0.0 / 0.00	95 / 1.56	13 / 0.27	6.6 / 0.16	5.8 / 0.09	0.2 / 0.01	0.1	24		132	21	83	5	DWR
J. Berger domestic	-21J	6-11-63	--	689	8.5	63 / 3.14	43 / 3.51	42 / 1.39	3.9 / 0.10	14 / 0.47	438 / 7.08	0.8 / 0.02	15 / 0.42	0.4 / 0.01	0.4 / 0.02	1.3	82		457	17	333	0	DWR
G. Bartram domestic	-22B	6-11-63	--	471	8.1	37 / 1.85	25 / 2.03	24 / 1.04	1.9 / 0.05	0.0 / 0.00	225 / 3.69	9.5 / 0.20	18 / 0.51	22 / 0.35	0.4 / 0.02	0.4	61		305	21	194	4	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{a.a}{0.00}$ except as shown

TABLE E-1 (cont)
ANALYSES OF GROUND WATER
1963

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
									SACRAMENTO VALLEY (5-21)														
	MDB&M								TEHAMA COUNTY														
Kelsey irrigation	23N/2W-5A1	6-17-63	69	343	8.0	19 / 0.95	16 / 1.33	28 / 1.22	1.1 / 0.03	0.0 / 0.00	194 / 3.18	5.8 / 0.12	5.3 / 0.15	2.8 / 0.04	0.2 / 0.01	0.0	24	Al 0.07	198	34	114	0	DWR
W. Angleton irrigation	23N/3W-22Q	6-17-63	71	349	7.9	23 / 1.15	17 / 1.37	22 / 0.96	0.7 / 0.02	0.0 / 0.00	154 / 2.52	14 / 0.29	21 / 0.59	2.2 / 0.04	0.1 / 0.00	0.2	29	Fe 0.91 (total) Al 0.22 Pb 0.01	202	27	126	0	DWR
D. D. Smith domestic and stock	-35B1	6-17-63	69	214	7.6	14 / 0.70	9.0 / 0.74	14 / 0.61	0.4 / 0.01	0.0 / 0.00	82 / 1.34	7.4 / 0.15	15 / 0.42	5.5 / 0.09	0.2 / 0.01	0.1	29	Fe 0.06 (total) Al 0.06 Zn 0.02	145	30	72	5	DWR
J. Ayres domestic and irrigation	24N/2W-30C1	6-17-63	66	532	8.2	35 / 1.75	33 / 2.69	28 / 1.22	1.0 / 0.02	0.0 / 0.00	271 / 4.44	17 / 0.35	22 / 0.62	9.2 / 0.15	0.2 / 0.01	0.0	26	Fe 0.05 (total) Al 0.06 Cu 0.01 Zn 0.02	305	21	222	0	DWR
G. Saulsbury domestic and irrigation	24N/3W-3P1	6-16-63	78	346	7.9	34 / 1.70	16 / 1.34	11 / 0.48	0.7 / 0.02	0.0 / 0.00	162 / 2.66	22 / 0.46	6.9 / 0.19	11 / 0.18	0.1 / 0.00	0.0	27	Fe 0.04 (total) Al 0.07 Zn 0.19	212	14	152	19	DWR
B. J. Moran & Son irrigation	-4K1	6-16-63	70	346	8.0	33 / 1.65	18 / 1.49	8.8 / 0.38	0.7 / 0.02	0.0 / 0.00	166 / 2.72	19 / 0.40	5.9 / 0.17	11 / 0.18	0.1 / 0.00	0.0	24	Al 0.05 Zn 0.24	209	11	157	21	DWR
Corning High School domestic	-14M1	6-17-63	69	256	7.9	23 / 1.15	12 / 0.95	13 / 0.56	0.6 / 0.02	0.0 / 0.00	140 / 2.29	5.1 / 0.11	4.3 / 0.12	5.9 / 0.10	0.1 / 0.00	0.0	34	Fe 0.03 (total) Al 0.11 Zn 0.01	170	21	105	0	DWR
W. E. Turner irrigation	-20N1	6-17-63	68	174	7.6	11 / 0.55	7.7 / 0.63	13 / 0.56	0.5 / 0.01	0.0 / 0.00	90 / 1.48	4.3 / 0.09	3.0 / 0.08	4.7 / 0.08	0.2 / 0.01	0.0	36	Fe 0.03 (total) Al 0.07 Zn 0.01	128	32	59	0	DWR
A. L. Miller domestic	24N/5W-21L1	6-17-63	68	386	8.0	24 / 1.20	11 / 0.88	40 / 1.74	1.3 / 0.03	0.0 / 0.00	172 / 2.82	7.2 / 0.15	2.9 / 0.82	0.7 / 0.01	0.2 / 0.01	0.1	27	Al 0.11 Cu 0.01 Zn 0.02	226	45	104	0	DWR
S. R. Pritchett domestic	25N/1W-31M1	6-17-63	71	399	8.1	30 / 1.50	26 / 2.16	13 / 0.56	3.2 / 0.08	0.0 / 0.00	238 / 3.90	2.5 / 0.05	6.7 / 0.19	4.6 / 0.07	0.1 / 0.00	0.1	69	Fe 0.01 (total) Al 0.04 Cu 0.01 Zn 0.20	274	13	183	0	DWR
Los Molinos Cemetery domestic	25N/2W-4M1	6-17-63	74	262	7.8			11 / 0.48		0.0 / 0.00	103 / 1.69		15 / 0.42					Fe 0.04 (total) As 0.01 Cu 0.01 Pb 0.01 Zn 0.24			103		DWR
F. B. Wray domestic	-7K1	6-17-63	62	567	8.2			20 / 0.87		0.0 / 0.00	283 / 4.64		33 / 0.93					Al 0.05 Pb 0.01 Zn 0.06			263		DWR
E. Clements Horst Co. irrigation	-21Q1	6-17-63	84	378	7.4	1.8 / 0.09	0.4 / 0.03	76 / 3.31	3.6 / 0.09	0.0 / 0.00	145 / 2.38	12 / 0.25	25 / 0.70	10 / 0.16		0.1		Fe 0.11 (total) Al 0.45 Zn 0.03	281	94	6	0	DWR
El Camino Irrigation District irrigation	25N/3W-3N1	6-16-63	66	392	8.1			21 / 0.91		0.0 / 0.00	201 / 3.29		19 / 0.54					Fe 0.04 (total) Al 0.04 Zn 0.02			157		DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
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d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as 0.0/0.00 except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by[c]
	MDB&M																						
								TEHAMA COUNTY (cont.)															
[illegible] domestic	[illegible]N/3W-[illegible]1H[illegible]	6-[illegible]-63	7[illegible]	[illegible]63	[illegible].2			10 / 0.44		0.0 / 0.00	[illegible] / 4.23		7.3 / 0.20					Fe 0.06 (total) Pb 0.01 Zn [illegible].72 Cu 0.01			[illegible]		DWR
J. Mor[illegible] domestic	[illegible]N/2W-[illegible]C1	[illegible]	[illegible]	[illegible]	7.8			14 / [illegible].61		[illegible] / [illegible].00	17[illegible] / 2.82		10 / [illegible].28					Al [illegible] Zn [illegible]			[illegible]37		DWR
MBC Lumber Inc. domestic and industrial	[illegible]N/3W-1[illegible]D1	[illegible]	[illegible]	[illegible]	7.[illegible]			1[illegible] / [illegible].56		0.[illegible] / 0.00	141 / [illegible].31		9.5 / 0.27					Al 0.07 Pb 0.01 Zn 0.07			[illegible]		DWR
J. Burch irrigation	[illegible]E	6-1[illegible]-63	[illegible]	18[illegible]	7.7			13 / 0.56		0.0 / 0.00	93 / 1.52		4.0 / 0.11					Al [illegible] Zn 0.0[illegible]			71		DWR
H. Dewitt	[illegible]N/[illegible]W-1[illegible]D1	6-[illegible]-63	68	372	8.2	[illegible] / 1.5[illegible]	18 / 1.46	24 / 1.[illegible]4	1.1 / 0.[illegible]3	0.0 / 0.00	[illegible] / 3.75	1.[illegible] / 0.[illegible]3	4.0 / 0.11	2.[illegible] / [illegible]		0.0		Fe 0.01 (total) Al 0.06 Pb 0.[illegible]2 Zn [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	DWR
R. K[illegible]	[illegible]7N/[illegible]W-1[illegible]Q[illegible]	6-[illegible]7-63	[illegible]	[illegible]	7.[illegible]	16 / 0.8[illegible]	[illegible].4 / [illegible].44	37 / 1.61	3.3 / 0.08	0.0 / [illegible]	1[illegible] / 2.36	7.2 / 0.1[illegible]	12 / 0.34	0.1 / 0.00		0.1		Fe [illegible] (total) Al [illegible].10 Pb 0.[illegible]1 Zn 0.1[illegible]	[illegible]	55	[illegible]	[illegible]	DWR
R. K[illegible] irrigation	[illegible]1	6-1[illegible]	[illegible]	[illegible]	7.[illegible]			12 / 0.5[illegible]		0.[illegible] / 0.00	141 / [illegible]		9.8 / [illegible]					Al 0.01 Pb [illegible] Zn [illegible]			[illegible]		DWR
City of Red Bluff municipal	[illegible]-1[illegible]A	6-1[illegible]	6[illegible]	[illegible]	7.[illegible]	22 / 1.1[illegible]	8.0 / [illegible]	1[illegible] / 0.[illegible]	2.3 / 0.0[illegible]	0.0 / 0.00	1[illegible]2 / [illegible].16	2.1 / 0.04	4.0 / 0.11	3.0 / [illegible].05		0.0		Al 0.06	190	[illegible]	88	0	DWR
Wilcox Oaks Golf Course irrigation	27N/[illegible]W-1H2	[illegible]-10-6[illegible]	[illegible]	[illegible]	7.[illegible]	[illegible] / 1.[illegible]	8.[illegible] / 0.70	17 / 0.74	2.1 / 0.05	0.0 / 0.00	134 / 2.20	[illegible]	3.[illegible] / 0.10	2.8 / 0.04		[illegible].0		Fe 0.01 (total) Al 0.14	193	30	[illegible]	[illegible]	DWR
								GLENN COUNTY															
W. We[illegible]lin domestic	1[illegible]N/[illegible]W-[illegible]E1	8-[illegible]-63	[illegible]	37[illegible]	8.1			26 / 1.13		[illegible] / 0.00	[illegible] / 3.64		[illegible]								1[illegible]		DWR
E. Fr[illegible]k irrigation	[illegible]-7F1	[illegible]	[illegible]	[illegible]	[illegible].3	[illegible] / 1.74	27 / [illegible]	[illegible] / 2.40	[illegible].6 / 0.02	[illegible].6 / 0.12	[illegible] / 4.68	64 / 1.3[illegible]	2.8 / [illegible]	7.8 / 0.13	[illegible].2 / 0.[illegible]1	0.1	2[illegible]		38[illegible]	[illegible]	1[illegible]9	[illegible]	LL
U. S. Government domestic	18N/3W-1[illegible]K1	3-[illegible]	7[illegible]	51[illegible]	[illegible]			[illegible] / [illegible].71		[illegible] / 0.00	264 / 4.3[illegible]		17 / 0.48								134		DWR
M[illegible] Ranch domestic	1[illegible]N/4W-[illegible]F1	8-[illegible]-63	74	[illegible]	[illegible].4	71 / 3.53	41 / 3.40	[illegible] / 3.9[illegible]	[illegible] / [illegible]	[illegible] / 0.32	374 / [illegible].14	34 / [illegible].69	105 / 2.[illegible]	52 / 0.84	0.4 / 0.02	[illegible]	22		534	36	346	[illegible]	LL
R. T. [illegible]ith domestic	1[illegible]N/2W-6G1	[illegible]	71	34[illegible]	8.1			12 / 0.52		[illegible] / 0.00	1[illegible] / 3.1[illegible]		4.7 / 0.13								154		DWR

Mineral constituents in parts per million / equivalents per million

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
	MDB&M					GLENN COUNTY (Cont.)																	
C. Calvert domestic	19N/2W-23N1	8-28-63	70	640	8.4	53 / 2.64	44 / 3.56	44 / 1.90	0.6 / 0.01	12 / 0.40	434 / 7.12	26 / 0.54	57 / 0.16	0.0 / 0.00	0.1 / 0.01	0.2	22		446	23	310	0	LL
Alta California Dairy domestic and industrial	19N/3W-6Q1	8-29-63	70	514	8.6	8.8 / 0.44	19 / 1.58	82 / 3.57	2.3 / 0.06	9 / 0.30	268 / 4.39	34 / 0.71	8.0 / 0.23	11 / 0.18	0.5 / 0.03	0.1	26		328	63	25	0	USGS
T. Bemi domestic	19N/3W-14P1	8-29-63	74	585	8.3			56 / 2.44		0.0 / 0.00	275 / 4.51		24 / 0.68								105		DWR
A. Quinn domestic	20N/2W-11Q1	8-28-63	69	376	8.5	35 / 1.75	20 / 1.63	17 / 0.74	1.4 / 0.04	5 / 0.17	209 / 3.43	11 / 0.23	6.0 / 0.17	11 / 0.18	0.1 / 0.01	0.1	27		231	18	160	0	USGS
H. Perry domestic	-19Q1	8-28-63	68	452	8.3			18 / 0.78		0.0 / 0.00	275 / 4.51		7.3 / 0.20								14		DWR
F. Reiman irrigation	20N/3W-2D1	8-28-63	69	448	8.2			17 / 0.74		0.0 / 0.00	213 / 3.49		22 / 0.62								180		DWR
L. M. Berens domestic	20N/4W-2Q1	8-28-63	72	342	8.0			14 / 0.61		0.0 / 0.00	173 / 2.84		5.4 / 0.15								140		DWR
L. E. Dobbins irrigation	21N/2W-2D1	8-27-63	68	560	8.4	41 / 2.05	36 / 2.99	23 / 1.00	1.6 / 0.04	7 / 0.23	283 / 4.64	21 / 0.44	24 / 0.68	12 / 0.19	0.1 / 0.01	0.2	20		288	16	252	8	USGS
I. G. Finch irrigation	-15C1	8-27-63	70	553	8.4	53 / 2.64	30 / 2.50	19 / 0.83	1.8 / 0.05	6 / 0.20	258 / 4.23	15 / 0.31	34 / 0.96	15 / 0.24	0.1 / 0.01	0.2	25		346	14	57	36	USGS
B. R. Purviance irrigation	21N/3W-14F1	8-27-63	73	355	8.2	37 / 1.83	12 / 0.99	26 / 1.13	0.4 / 0.01	0.0 / 0.00	199 / 3.27	7.7 / 0.16	15 / 0.42	0.0 / 0.00	0.2 / 0.01	0.1	21		228	29	141	0	LL
E. Slaten irrigation	-20D1	8-28-63	73	353	8.0			28 / 1.22		0.0 / 0.00	157 / 2.57		27 / 0.76								116		DWR
Baker & McCowan irrigation	22N/1W-29C1	8-28-63	68	484	8.1			22 / 0.96		0.0 / 0.00	223 / 3.65		24 / 0.68								208		DWR
C. A. Nickel domestic	22N/2W-3A1	8-27-63	70	527	8.4	45 / 2.25	25 / 2.05	29 / 1.26	1.3 / 0.03	4 / 0.13	192 / 3.15	36 / 0.75	34 / 0.96	28 / 0.45	0.2 / 0.01	0.3	26		327	23	215	51	USGS
Mills Orchard Inc. irrigation	-26B1	8-27-63	--	436	8.1			19 / 0.83		0.0 / 0.00	204 / 3.34		21 / 0.59								187		DWR
I. C. Wight domestic	22N/3W-4G1	8-27-63	73	483	8.2			20 / 0.87		0.0 / 0.00	245 / 4.02		20 / 0.56								215		DWR
City of Orland municipal	-22Q1	8-29-63	70	421	8.1			19 / 0.83		0.0 / 0.00	192 / 3.15		21 / 0.59								173		DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as 0.0/0.00 except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
	MDB&M																						
								GLENN COUNTY (Cont.)															
J. Freitas Irrigation	22N/3W-25B1	8-27-63	60	386	8.1			10 / 0.43		0.0 / 0.00	180 / 2.95		21 / 0.59								162		DWR
Grave[illegible] Cemetery Irrigation	22N/4W-10R1	8-27-63	71	480	8.3			18 / 0.78		0.0 / 0.00	232 / 3.80		27 / 0.76								219		DWR
								BUTTE COUNTY															
D. E. J[illegible] domestic	17N/1E-1R1	8-[illegible]-63	--	793	8.5	40 / 2.00	57 / 4.69	90 / 2.16	2.6 / 0.07	5 / 0.17	444 / 7.28	8.4 / 0.18	45 / 0.99	2.1 / 0.15		0.0			471	24	335	0	DWR
J. C. Davis Irrigation	17N/2E-2D1	8-[illegible]-63	--	368	8.3	24 / 1.20	26 / 2.14	14 / 0.56	1.0 / 0.02	0.0 / 0.00	214 / 3.51	3.0 / 0.06	9.8 / 0.28	5.4 / 0.09		0.0			241	14	167	0	DWR
Gridly Farm Labor Center domestic	17N/3E-4D1	8-22-63	--	258	8.0	18 / 0.90	16 / 1.32	14 / 0.56	3.1 / 0.08	0.0 / 0.00	154 / 2.52	0.5 / 0.01	9.8 / 0.28	0.4 / 0.01		0.0			188	20	111	0	DWR
R. Finley domestic and irrigation	-18R1	7-16-63	--	639	8.4	44 / 2.20	51 / 4.23	24 / 1.04	1.6 / 0.02	8 / 0.27	200 / 6.39	7.4 / 0.15	15 / 0.42	18 / 0.29		0.0			417	14	322	0	DWR
L. O. Strem[illegible] Irrigation	17N/4E-2[illegible]	8-27-63	--	420	8.0	27 / 1.35	14 / 1.15	36 / 1.57	2.2 / 0.06	0.0 / 0.00	154 / 2.52	9.4 / 0.20	49 / 1.38	1.5 / 0.02		0.3			274	38	125	3	DWR
Schohr Ranch Irrigation	18N/1E-14R1	8-21-63	--	278	8.1	21 / 1.05	16 / 1.31	15 / 0.65	4.1 / 0.08	0.0 / 0.00	167 / 2.74	5.3 / 0.11	4.0 / 0.11	0.4 / 0.01		0.0			210	21	118	0	DWR
R. Edwards domestic and stock	18N/2E-12B1	7-16-63	--	285	7.9	22 / 1.10	17 / 1.42	14 / 0.60	0.5 / 0.01	0.0 / 0.00	161 / 2.64	8.1 / 0.17	1.1 / 0.03	5.9 / 0.10		0.1			191	18	126	0	DWR
F. Guidici Irrigation	18N/4E-21P1	7-12-63	--	260	7.9	24 / 1.20	13 / 1.08	11 / 0.48	0.6 / 0.02	0.0 / 0.00	132 / 2.16	4.8 / 0.10	6.0 / 0.17	10 / 0.16		0.1			182	17	113	4	DWR
West Coast Orchards Irrigation	-28M	7-12-63	--	2340	8.4	62 / 3.10	24 / 2.00	464 / 20.18	2.6 / 0.07	4 / 0.13	173 / 2.84	699 / 13.12	340 / 7.02	3.4 / 0.06		5.9			1540	89	115	0	DWR
P. R[illegible] domestic	1[illegible]/2E-16P1	8-21-63	--	220	7.7	17 / 0.85	12 / 0.97	10 / 0.44	1.2 / 0.03	0.0 / 0.00	110 / 1.80	4.3 / 0.09	8.3 / 0.23	3.4 / 0.05		0.0			180	19	91	1	DWR
Butte County Hospital domestic	19N/4E-6P1	8-[illegible]-63	--	500	8.0	22 / 1.10	17 / 1.39	12 / 0.53	1.0 / 0.02	0.0 / 0.00	170 / 2.79	5.2 / 0.12	5.8 / .16	7.1 / 0.11		0.0			219	25	124	0	DWR
H. Norheim Irrigation	20N/1E-4H1	8-[illegible]-63	--	404	8.1	22 / 1.10	25 / 2.05	14 / 0.61	0.2 / 0.02	0.0 / 0.00	206 / 3.38	12 / 0.25	13 / 0.37	2.4 / 0.15		0.1			276	14	185	17	DWR
Y. Payan domestic and irrigation	-20N/2E-29R1	11-1-63	--	389	7.9	32 / 1.60	17 / 1.40	22 / 0.96	1.7 / 0.04	0.0 / 0.00	178 / 2.92	8.7 / 0.18	28 / 0.79	0.0 / 0.00		0.0			245	24	150	4	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{ppm}{epm}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
	MDB&M								BUTTE COUNTY (Cont.)														
Berkeley Olive Assoc. domestic	20N/3E-15H1	7-18-63	--	164	7.0	14 / 0.70	9.0 / 0.74	2.1 / 0.22	2.4 / 0.06	0.0 / 0.00	93 / 1.52	2.0 / 0.05	1.3 / 0.04	0.5 / 0.01		0.0			103	13	72	0	DWR
C. Sprague domestic	21N/1W-26Q1	8-7-63	--	489	8.0	42 / 2.10	30 / 2.46	20 / 0.87	2.0 / 0.05	0.0 / 0.00	307 / 5.03	6.7 / 0.14	4.2 / 0.12	2.0 / 0.03		0.0			298	16	228	0	DWR
S. Yakich domestic and irr.	21N/2E-30C1	8-9-63	--	605	7.6	49 / 2.44	29 / 2.23	14 / 0.61	0.6 / 0.02	0.0 / 0.00	227 / 3.72	50 / 1.04	13 / 0.37	68 / 1.10		0.6			390	10	284	38	DWR
M. Compton domestic	21N/3E-10Q1	8-9-63	--	247	8.0	22 / 1.10	14 / 1.16	9.2 / 0.40	1.8 / 0.05	0.0 / 0.00	152 / 2.49	1.5 / 0.03	2.7 / 0.08	1.5 / 0.02		0.0			201	15	113	0	DWR
S. Hopkins domestic and stock	22N/1E-9M1	7-18-63	--	340	8.1	25 / 1.27	21 / 1.72	15 / 0.65	0.7 / 0.02	0.0 / 0.00	175 / 2.87	12 / 0.25	9.9 / 0.28	19 / 0.31	0.1 / 0.00	0.1	50		250	18	150	7	LL
State of California domestic and stock	22N/2E-18J1	7-18-63	--	230	7.9	20 / 1.02	8.3 / 0.68	14 / 0.60	1.0 / 0.03	0.0 / 0.00	117 / 1.91	4.8 / 0.10	8.9 / 0.25	4.2 / 0.07	0.1 / 0.01	0.2	28		140	26	85	0	LL
C. Callahan stock	23N/1E-32K1	7-18-63	--	205	8.0	16 / 0.80	7.1 / 0.58	15 / 0.65	0.9 / 0.02	0.0 / 0.00	87 / 1.43	4.8 / 0.10	8.5 / 0.24	18 / 0.29	0.1 / 0.00	0.1	45		168	32	69	0	LL
M. K. Barnes domestic and irrigation	23N/1W-9L1	7-18-63	--	410	8.2	37 / 1.83	26 / 2.14	12 / 0.52	1.3 / 0.03	0.0 / 0.00	208 / 3.42	19 / 0.40	4.6 / 0.13	26 / 0.42	0.1 / 0.00	0.0	50		308	12	148	27	LL
									COLUSA COUNTY														
S. Morse irrigation	14N/1W-12A1	9-24-63	67	800	8.3	17 / 0.83	16 / 1.32	162 / 7.05	0.9 / 0.02	2 / 0.08	375 / 6.15	16 / 0.33	89 / 2.50	0.4 / 0.01	0.1 / 0.01	0.6	31		536	77	107	0	LL
Grand Island School domestic and irrigation	-18A1	9-24-63	--	430	8.2	17 / 0.86	11 / 0.90	68 / 2.95	0.9 / 0.02	0.0 / 0.00	238 / 3.90	7.2 / 0.15	21 / 0.60	0.0 / 0.00	0.1 / 0.01	0.2	26		272	63	86	0	LL
W. Rankin irrigation	-31N1	9-25-63	67	500	8.3	41 / 2.05	16 / 1.33	44 / 1.90	0.6 / 0.02	2 / 0.06	169 / 2.77	4.8 / 0.10	75 / 2.13	8.1 / 0.13	0.2 / 0.01	0.5	21		382	39	169	27	LL
F. Marsh domestic and stock	15N/2W-32R1	9-25-63	--	645	8.5	34 / 1.68	32 / 2.62	64 / 2.80	0.8 / 0.02	9 / 0.30	287 / 4.70	41 / 0.86	34 / 0.95	10 / 0.16	0.4 / 0.02	0.2	20		404	49	215	0	LL
P. Murphy domestic	15N/4W-25P1	9-25-63	--	900	8.5	42 / 2.12	27 / 2.15	145 / 6.30	0.8 / 0.02	9 / 0.30	314 / 5.15	98 / 2.04	101 / 2.85	0.2 / 0.04	0.4 / 0.02	0.4	16		642	59	212	0	LL
Shell Oil Co. industrial	16N/1W-29J1	9-24-63	--	360	8.5	36 / 1.79	7.8 / 0.64	39 / 1.70	0.4 / 0.01	5 / 0.15	223 / 3.65	0.5 / 0.01	7.8 / 0.22	0.0 / 0.00	0.1 / 0.01	0.2	24		212	41	102	0	LL
Watt Brothers domestic	16N/2W-4H1	9-24-63	--	480	8.4	36 / 1.78	21 / 1.73	45 / 1.95	1.4 / 0.04	3 / 0.10	211 / 3.46	48 / 1.00	27 / 0.75	4.2 / 0.07	0.1 / 0.01	0.2	28		316	35	172	0	LL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as 0.0/0.00 except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
	MDB&M					COLUSA COUNTY (Cont.)																	
F. J. Ortman domestic	16N/3W-9N1	9-24-63	--	590	8.0	40 / 2.02	21 / 1.74	58 / 2.50	0.3 / 0.01	0.0 / 0.00	245 / 4.02	19 / 0.40	66 / 1.87	1.3 / 0.02	0.4 / 0.02	0.2	16		364	40	188	0	LL
C. Tuttle domestic	17N/2W-12C1	9-24-63	--	430	8.2	35 / 1.75	22 / 1.81	36 / 1.55	1.1 / 0.03	0.0 / 0.00	270 / 4.44	5.8 / 0.12	18 / 0.50	0.0 / 0.00	0.1 / 0.01	0.1	28		208	30	178	0	LL
Maxwell Public Utility District municipal	17N/3W-33R1	9-24-63	--	860	8.2	40 / 2.02	32 / 2.61	116 / 5.05	1.0 / 0.03	2 / 0.08	319 / 5.23	100 / 2.08	83 / 2.32	2.2 / 0.04	0.2 / 0.01	0.3	37		606	65	232	0	LL
						SUTTER COUNTY																	
C. Morrison domestic	11N/4E-9D1	6-14-63	67	350	7.8	33 / 1.67	15 / 1.21	19 / 0.83	1.5 / 0.04	0.0 / 0.00	173 / 2.83	14 / 0.30	21 / 0.60	0.0 / 0.00	0.1 / 0.00	0.1	41		229	22	144	2	LL
E. K. Richter domestic	12N/2E-9B2	6-4-63	67	639	8.2			134 / 5.83		0.0 / 0.00	267 / 4.38		62 / 1.75							82	66	0	DWR
Garner domestic	-11N1	6-4-63	66	1270	8.0			250 / 10.88		0.0 / 0.00	267 / 4.38		271 / 7.64							82	121	0	DWR
T. Honning washwater	-14B1	6-4-63	65	4320	7.8			618 / 26.88		0.0 / 0.00	201 / 3.29		1310 / 36.96							62	808	643	DWR
L. A. Wright domestic	-16R1	6-4-63	68	880	8.4			172 / 7.48		14 / 0.47	417 / 6.83		62 / 1.75							77	113	0	DWR
D. Haun domestic	-23Q1	6-4-63	66	954	8.1			188 / 8.18		0.0 / 0.00	270 / 4.42		164 / 4.77							85	75	0	DWR
E. Murphy domestic	-26A1	6-4-63	--	1070	8.1			192 / 8.35		0.0 / 0.00	286 / 4.69		289 / 5.78							79	108	0	DWR
H. Van Dyke irrigation	12N/3E-26R1	6-13-63	66	890	8.3	67 / 3.34	29 / 2.52	80 / 3.47	2.7 / 0.07	0.0 / 0.00	294 / 3.61	8.2 / 0.17	201 / 5.67	0.0 / 0.00	0.1 / 0.00	0.2	42		612	37	294	111	LL
T. Fields domestic	13N/3E-14M2	6-5-63	65	673	8.3			28 / 1.22		0.0 / 0.00	346 / 5.67		44 / 1.24							84	282	0	DWR
E. Silva irrigation	-11Q3	6-13-63	67	942	8.0			118 / 5.13		0.0 / 0.00	241 / 3.95		177 / 4.99							57	193	0	DWR
Boscacchi Ranch irrigation	-13C1	6-13-63	61	392	8.2			52 / 2.26		0.0 / 0.00	198 / 3.24		23 / 0.65							54	77	0	DWR
F. K. Silva irrigation	-23H1	6-21-63	68	1640	8.1	118 / 5.10	94 / 7.70	87 / 3.80	3.1 / 0.08	0.0 / 0.00	209 / 3.43	22 / 0.46	449 / 12.65	0.0 / 0.00	0.1 / 0.00	0.1	34		900	24	640	468	LL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

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	MDB&M							SUTTER COUNTY (Cont.)															
C. M. Owen irrigation	13N/4E-21A1	6-5-63	[illegible]	740	8.3	62 / 3.11	47 / 3.94	28 / 1.65	2.0 / 0.05	4.2 / 0.14	238 / 3.90	213 / 4.44	11 / 0.28	1.8 / 0.03	0.1 / 0.00	0.1	33		[illegible]	19	352	150	LL
J. E. Jopson irrigation	13N/4E-23Q1	6-5-63	69	241	7.8	25 / 1.07				0.0 / 0.00	107 / 1.75		18 / 0.51								68	38	0	DWR
C. F. Nelson irrigation	13N/5E-7R3	6-13-63	68	579	7.8	43 / 1.87				0.0 / 0.00	181 / 2.97		42 / 1.18								33	194	66	DWR
California Packing C. irrigation	-9R1	6-5-63	66	380	8.4	27 / 1.33	7.2 / 0.60	43 / 1.87	1.1 / 0.03	2.0 / 0.13	141 / 2.31	46 / 0.96	13 / 0.36	4.8 / 0.08	0.1 / 0.00	0.1	27		242	48	99	0	LL
E. J. Gallegher irrigation	-10R2	6-5-63	68	85	7.8	16 / 0.70				0.0 / 0.00	110 / 1.80		24 / 0.68								25	118	0	DWR
West Ranch irrigation	-35L1	6-13-63	68	209	8.0	11 / 0.48				0.0 / 0.00	106 / 1.74		7.5 / 0.21								24	77	0	DWR
Fry Brother domestic	14N/1E-1A1	6-6-63	68	580	8.3	24 / 1.04				0.0 / 0.00	351 / 5.75		14 / 0.39								16	27	0	DWR
S. A. McKeehn domestic	-2A1	6-6-63	66	771	7.9	15 / 0.65				0.0 / 0.00	288 / 5.36		74 / 2.09								8	343	104	DWR
T. Barkhouse domestic	-24N1	6-6-63	69	331	8.0	22 / 1.12	16 / 1.29	34 / 1.50	0.7 / 0.02	0.0 / 0.00	204 / 3.35	11 / 0.23	13 / 0.37	0.0 / 0.00	0.2 / 0.01	0.2	36		240	54	118	0	LL
B. Singh irrigation	14N/3E-3C2	5-31-63	67	635	8.4	37 / 1.86	30 / 2.54	50 / 2.17	3.7 / 0.09	0.0 / 0.30	229 / 3.75	11 / 0.22	89 / 2.50	0.0 / 0.00	0.1 / 0.00	0.1	24		376	[illegible]	229	18	LL
L. Littlejohn domestic and irrigation	-14E2	6-13-63	62	231	7.9	9.4 / 0.41				0.0 / 0.00	138 / 2.26		1.9 / 0.05								18	95	0	DWR
J. A. Blevins domestic	-15H1	6-13-63	65	973	8.3	32 / 1.52				0.0 / 0.00	444 / 7.28		64 / 1.80								14	474	109	DWR
S. E. Best domestic and irrigation	-16B2	6-13-63	68	1600	7.8	69 / 3.00				0.0 / 0.00	312 / 5.11		317 / 9.00								19	646	394	DWR
R. Mahon irrigation	-18A2	6-13-63	67	598	8.2	43 / 1.87				0.0 / 0.00	309 / 5.06		30 / 0.85								29	226	0	DWR
Sullivan Ranch irrigation	-23M2	6-17-63	62	483	8.1	18 / 0.78				0.0 / 0.00	266 / 4.36		5.6 / 0.16								15	226	8	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
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d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{aa}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (No)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
	MDDM									SUTTER COUNTY (Cont.)													
J. Zerger Irrigation	14N/3E-28R1	6-10-63	66	1460	8.0			85 / 3.61		0.0 / 0.00	290 / 4.70		240 / 7.59							26	517	410	DWR
Irrigation	-33C	6-6-63	65	1390	8.2	61 / 3.04	25 / 1.76	82 / 3.60	1.7 / 0.04	0.0 / 0.00	187 / 3.06	6.2 / 0.13	46.5 / 11.31	0.0 / 0.00	0.2 / 0.01	0.2	25		806	25	540	387	LL
Mayfair Packing Co. Irrigation	-33H	6-10-63	67	910	8.2	52 / 2.60	24 / 1.97	40 / 1.75	1.5 / 0.04	0.0 / 0.00	235 / 3.85	8.1 / 0.17	200 / 5.61	0.0 / 0.00	0.1 / 0.01	0.1 / 0.00	28		528	18	395	203	LL
V. Fieth domestic and irrigation	15N/1E-16R1	6-6-63	67	640	8.5	50 / 2.50	22 / 1.83	24 / 1.05	2.2 / 0.06	26 / 0.87	212 / 3.47	5.2 / 0.11	17 / 0.48	3.4 / 0.06	0.1 / 0.00	0.1	44		450	13	339	0	LL
E. L. Carrathers domestic	15N/2E-26D2	6-6-63	66	910	8.4	41 / 2.05	61 / 5.04	64 / 2.80	1.3 / 0.03	12 / 0.40	283 / 4.63	58 / 1.20	62 / 2.60	61 / 0.98	0.2 / 0.01	0.1	41		586	28	354	102	LL
A. Eager Irrigation	15N/3E-4C2	6-6-63	65	910	8.2	77 / 1.91	77 / 6.30	44 / 1.93	1.7 / 0.04	0.0 / 0.00	252 / 4.31	132 / 2.75	47 / 0.75	81 / 1.31	0.1 / 0.00	0.1	47		542	15	413	148	LL
R. Pallex Irrigation	-28M1	6-10-63	64	426	8.0			47 / 2.04		0.0 / 0.00	210 / 3.49		27 / 0.76							47	114	0	DWR
R. Albers domestic	16N/3E-4E1	6-11-63	70	295	7.9	30 / 1.02	17 / 1.45	17 / 0.75	0.7 / 0.02	0.0 / 0.00	140 / 2.30	21 / 0.45	9.7 / 0.02	18 / 0.29	0.1 / 0.00	0.1	46		308	24	118	3	LL
										YUBA COUNTY													
City of Wheatland municipal	15N/5E-4B2	7-18-63	--	910	8.1	48 / 2.40	12 / 0.98	140 / 6.09	2.2 / 0.06	0.0 / 0.00	142 / 2.10	24 / 0.51	240 / 6.69	3.9 / 0.01	0.1 / 0.00	0.5	27		636	63	169	61	LL
E. Anthony domestic	14N/4E-7M1	7-23-63	--	480	8.1	42 / 2.09	7 / 0.60	39 / 1.70	2.0 / 0.05	0.0 / 0.00	244 / 4.00	20 / 1.05	14 / 0.39	3.0 / 0.05	0.2 / 0.01	0.1	27		308	29	115	19	LL
F. Hofman Irrigation	-29R1	7-23-63	--	600	8.0	13 / 0.60	10 / 0.80	21 / 0.90	1.2 / 0.03	0.0 / 0.00	105 / 1.72	4.8 / 0.10	11 / 0.45	0.9 / 0.01	0.1 / 0.00	0.1	24		180	39	70	0	LL
Bergo Brothers Irrigation	14N/5E-19C1	7-18-63	--	700	7.8	14 / 0.70	8.1 / 0.67	15 / 0.65	0.8 / 0.02	0.0 / 0.00	94 / 1.51	9.1 / 0.19	16 / 0.39	0.9 / 0.01	0.2 / 0.01	0.0	32		170	41	69	0	LL
Souza Brothers Irrigation	-16C1	7-18-63	--	220	7.9	16 / 0.81	4.4 / 0.35	24 / 1.05	0.7 / 0.02	0.0 / 0.00	102 / 1.66	7.7 / 0.16	12 / 0.37	1.3 / 0.02	0.2 / 0.01	0.1	61		181	47	58	0	LL
Waltz Ranch Irrigation	-21Q1	7-18-63	--	420	7.7	26 / 1.30	10 / 0.83	48 / 2.10	1.5 / 0.04	0.0 / 0.00	93 / 1.52	14 / 0.28	87 / 2.45	1.1 / 0.02	0.1 / 0.00	0.1	24		316	49	106	30	LL
S. R. Johnson Irrigation	-24M1	7-18-63	--	340	8.0	23 / 1.17	6.1 / 0.50	40 / 1.75	1.2 / 0.03	0.0 / 0.00	103 / 1.69	11 / 0.23	22 / 1.77	0.9 / 0.01	0.1 / 0.00	0.1	24		250	51	83	0	LL

a. Determined by addition of constituents
b. Gravimetric determination
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (PCC), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
	MDB&M								YUBA COUNTY (Cont.)														
E. Garcia irrigation	14N/5E-30J	7-18-63	--	360	7.9	24 / 1.22	7.8 / 0.64	40 / 1.75	1.4 / 0.04	0.0 / 0.00	105 / 1.72	8.2 / 0.17	62 / 1.75	1.2 / 0.19	0.1 / 0.00	0.1	50		264	48	93	1	LL
Linda Water Co. municipal	15N/4E-20J1	7-23-63	--	350	8.2	27 / 1.34	23 / 1.87	14 / 0.60	1.1 / 0.03	0.0 / 0.00	182 / 2.99	27 / 0.77	4.0 / 0.13	0.0 / 0.00	0.1 / 0.00	0.0	34		232	16	160	10	LL
LaFinca Orchards Co. irrigation	16N/3E-11N1	7-19-63	--	1160	7.7	90 / 4.49	27 / 2.20	120 / 5.20	3.0 / 0.08	0.0 / 0.00	173 / 2.84	3.8 / 0.08	31 / 0.88	1.7 / 0.03	0.1 / 0.00	0.4	42		708	44	336	140	LL
M. Kaine irrigation	-11R2	7-19-63	--	430	8.1	36 / 1.78	29 / 2.38	18 / 0.80	1.3 / 0.03	0.0 / 0.00	266 / 4.37	8.2 / 0.17	7.1 / 0.20	6.8 / 0.10	0.1 / 0.00	0.0	37		294	16	208	0	LL
H. Keeler domestic and irrigation	-23B1	7-19-63	--	270	8.2	23 / 1.13	13 / 1.08	13 / 0.57	1.4 / 0.04	0.0 / 0.00	145 / 2.38	4.8 / 0.10	2.3 / 0.15	6.3 / 0.10	0.1 / 0.00	0.0	26		161	21	110	0	LL
LaFinca Orchards Co. irrigation	-26Q1	7-19-63	--	255	8.3	28 / 1.42	7.8 / 0.64	20 / 0.87	2.3 / 0.06	3.0 / 0.10	147 / 2.42	2.9 / 0.06	11 / 0.30	0.0 / 0.00	0.1 / 0.00	0.1	50		212	29	103	1	LL
J. Robel domestic	16N/4E-9D1	7-18-63	--	205	7.8	16 / 0.81	9.1 / 0.75	13 / 0.57	0.3 / 0.01	0.0 / 0.00	85 / 1.39	2.4 / 0.05	12 / 0.35	21 / 0.34	0.1 / 0.00	0.0	40		152	27	78	5	LL
									PLACER COUNTY														
K. Teraoku irrigation	10N/5E-6D1	8-7-63	--	312	8.0	21 / 1.05	8.9 / 0.73	30 / 1.30	1.2 / 0.03	0.0 / 0.00	141 / 2.31	1.8 / 0.04	19 / 0.54	2.4 / 0.04		0.0			320	46	89	0	DWR
A. Lampen domestic and irrigation	10N/6E-5C	8-7-63	--	190	7.9	12 / 0.60	7.0 / 0.58	17 / 0.74	1.0 / 0.02	0.0 / 0.00	84 / 1.46	0.9 / 0.00	10 / 0.28	4.1 / 0.07		0.0			134	35	59	0	DWR
R. L. Dixon domestic and irrigation	10N/6E-10D	8-7-63	--	435	7.8	31 / 1.55	20 / 1.61	27 / 1.17	1.8 / 0.05	0.0 / 0.00	188 / 3.08	5.6 / 0.12	29 / 0.82	13 / 0.21		0.0			301	27	158	4	DWR
Sierra View Land Co. irrigation	11N/6E-34B	8-7-63	--	275	8.0	22 / 1.10	9.5 / 0.78	22 / 0.96	1.4 / 0.04	0.0 / 0.00	146 / 2.39	2.6 / 0.05	10 / 0.28	1.9 / 0.02		0.0			134	33	94	0	DWR
U. S. Air Force industrial	12N/5E-23P1	8-7-63	--	203	7.7	11 / 0.55	7.4 / 0.61	20 / 0.87	0.8 / 0.02	0.0 / 0.00	89 / 1.46	2.2 / 0.05	9.2 / 0.26	4.4 / 0.14		0.1			187	45	58	0	DWR
F. W. Fullerton domestic and irrigation	12N/6E-16D2	8-7-63	--	736	7.8	25 / 1.25	20 / 1.61	94 / 4.09	1.0 / 0.02	0.0 / 0.00	148 / 2.42	60 / 1.25	100 / 2.82	45 / 0.80		1.0			474	59	143	20	DWR
G. Blake domestic	13N/5E-13D	8-7-63	--	515	7.8	21 / 1.05	11 / 0.81	62 / 2.70	1.6 / 0.04	0.0 / 0.00	81 / 1.33	41 / 0.85	80 / 2.26	4.5 / 0.07		0.4			291	59	93	27	DWR

o. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as 0.0/0.00 except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (No)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
	MDB&M									PLACER COUNTY (Cont.)													
H. Barter Domestic	13N/6E-16D	8-7-63	--	132	7.4	14 / 0.70	17 / 1.40	12 / 0.53	1.6 / 0.02	0.0 / 0.00	56 / 0.92	3.1 / 0.07	6.4 / 0.18	5.8 / 0.09		0.0			140	63	23	0	DWR
L. Francesch Irrigation	13N/6E-[illegible]C	8-7-63	--	427	8.2	37 / 1.85	18 / 1.45	24 / 1.04	4.5 / 0.12	0.0 / 0.00	215 / 3.52	14 / 0.29	20 / 0.56	1.3 / 0.02		0.1			261	23	165	0	DWR
										YOLO COUNTY													
Hollenbeck Domestic	6N, 3E-25A1	7-23-63	72	507	8.0			94 / 4.09		0.0 / 0.00	227 / 3.72		27 / 0.76			1.0			82	45	0	DWR
T. Sakata Domestic	-25A2	7-23-63	--	514	8.0			88 / 3.83		0.0 / 0.00	234 / 3.84		53 / 1.50						64	108	0	DWR
Glide Ranch Domestic and stock	7N/3E-31	7-15-63	72	890	8.5	46 / 2.32	68 / 5.63	64 / 2.78	1.2 / 0.03	23 / 0.76	405 / 6.64	40 / 0.85	60 / 1.70	62 / 1.00	0.1 / 0.00	0.7	22		590	26	398	28	LL
E. Uhul Domestic	-31M1	7-15-63	--	934	8.4			77 / 3.35		7 / 0.23	484 / 7.87		30 / 0.85			1.0			31	369	0	DWR
Anderson & Beebeck Domestic	7N/4E-33G1	7-23-63	70	2090	7.6			304 / 13.22		0.0 / 0.00	220 / 3.60		590 / 16.67			2.0			66	270	84	DWR
B. Noble Irrigation	8N, 1E-8E1	7-10-63	69	770	8.4	33 / 2.64	51 / 4.23	79 / 3.43	1.3 / 0.03	12 / 0.40	386 / 6.34	55 / 1.14	50 / 1.40	10 / 0.16	0.2 / 0.01	0.6	33		506	37	293	0	LL
Will[illegible]whank [illegible] Domestic and Irrigation	8N/2E-13F2	7-15-63	68	648	8.3			46 / 2.00		0.0 / 0.00	354 / 5.80		20 / 0.56						29	261	0	DWR
B. K. Howait Irrigation	8N/3E-5P1	7-23-63	70	791	8.4			80 / 3.57		3 / 0.13	364 / 5.90		47 / 1.32						41	258	0	DWR
B. K. Howait Irrigation	-5Q1	7-23-63	70	749	8.4			78 / 3.39		2 / 0.07	340 / 5.57		47 / 1.32						42	238	0	DWR
W. C. Hamel Irrigation	-19D1	7-15-63	68	1910	8.3	24 / 1.20	97 / 7.99	18 / 3.40	1.2 / 0.03	16 / 0.52	506 / 8.30	104 / 2.16	60 / 1.70	13 / 0.21	0.1 / 0.00	0.7	35		684	27	462	11	LL
Wilber Domestic	-19M2	7-15-63	68	1700	8.4			114 / 5.13		6 / 0.27	720 / 12.95		73 / 2.06	132 / 2.13		1.5			25	761	113	DWR
Rice Growers Assoc. Industrial	8N/4E-3B1	7-23-63	71	808	7.4			70 / 3.04		1 / 0.00	171 / 2.80		166 / 4.69						46	224	69	DWR
W. Hodge Irrigation	9N/1W-13G1	6-25-63	71	576	7.2	26 / 1.30	36 / 2.96	44 / 1.91	0.9 / 0.02	0.0 / 0.00	274 / 4.49	38 / 0.98	39 / 0.82	6.8 / 0.11		0.7			336	31	211	0	DWR

a. Determined by addition of constituents
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (PCC), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
	MDB&M					YOLO COUNTY (Cont.)																	
Dumars irrigation	9N/1E-12A1	6-25-63	72	908	8.3			87 / 3.78		0.0 / 0.00	395 / 6.47		73 / 2.06			2.3				38	303	0	DWR
R. Stactmueller irrigation	9N/2E-10D1	7-10-63	70	560	8.3	24 / 1.18	37 / 3.08	51 / 2.20	1.8 / 0.05	6.0 / 0.20	272 / 4.46	15 / 0.32	51 / 1.43	5.3 / 0.09	0.1 / 0.00	1.6	24		348	34	213	0	LL
Woodland Farms irrigation	9N/3E-7D2	7-29-63	73	627	8.2	32 / 1.60	30 / 2.50	63 / 2.74	1.8 / 0.05	0.0 / 0.00	313 / 5.13	28 / 0.58	33 / 0.93	0.6 / 0.01	0.5 / 0.03	1.9	24		355	40	205	0	DWR
Raikes domestic	9N/4E-33L1	7-23-63	70	1800	7.9	85 / 4.24	33 / 2.73	223 / 9.70	6.2 / 0.16	0.0 / 0.00	228 / 3.74	6.4 / 0.13	458 / 12.92	0.3 / 0.00	0.1 / 0.00	1.7	53		1070	58	349	162	DWR
Dumars domestic	9N/1W-16R1	6-25-63	--	932	8.3			106 / 4.61		0.0 / 0.00	320 / 5.24		109 / 3.07			0.8				48	250	0	DWR
Chapman Brothers irrigation	-30L1	6-25-63	70	807	8.0			88 / 3.83		0.0 / 0.00	274 / 4.49		75 / 2.12			0.9				47	216	0	DWR
Scarlett & Owens irrigation	10N/1E-1C1	7-12-63	72	764	8.3			48 / 2.09		0.0 / 0.00	346 / 5.67		59 / 1.66			1.8				25	318	34	DWR
N. Corcoran domestic	-15G1	6-25-63	--	1050	8.2	51 / 2.54	61 / 5.01	94 / 4.09	0.8 / 0.02	0.0 / 0.00	402 / 6.59	123 / 2.56	77 / 2.17	3.4 / 0.04	0.6 / 0.03	1.2	36		643	35	378	48	DWR
W. K. Lowe domestic	10N/2E-1Q1	7-1-63	70	1960	8.1			154 / 6.70		0.0 / 0.00	180 / 2.95		386 / 10.89			4.1				33	666	518	DWR
City of Woodland domestic	-27H1	7-1-63	--	572	8.2			45 / 1.96		0.0 / 0.00	264 / 4.33		50 / 1.41			1.5				33	203	0	DWR
C. Davis irrigation	10N/1W-4D1	6-27-63	70	499	8.1	21 / 1.05	30 / 2.51	45 / 1.96	1.2 / 0.03	0.0 / 0.00	282 / 4.62	12 / 0.25	14 / 0.39	4.5 / 0.07	0.0 / 0.00	0.3	44		301	35	178	0	DWR
Ferro & Canepa irrigation	-36K2	6-25-63	--	1100	8.0	20 / 1.00	59 / 4.69	133 / 5.78	2.9 / 0.07	0.0 / 0.00	338 / 5.54	96 / 2.00	134 / 3.78	2.9 / 0.05	0.2 / 0.01	2.7	21		627	50	285	8	DWR
J. Peterson domestic and irr.	10N/2W-16L1	6-27-63	71	954	8.2	22 / 1.10	66 / 5.41	74 / 3.44	1.2 / 0.03	0.0 / 0.00	335 / 5.49	47 / 0.96	106 / 2.99	21 / 0.34	0.3 / 0.02	2.0	32		536	34	326	51	DWR
J. Howard domestic and stock	-17J2	6-27-63	--	986	8.2	27 / 1.35	31 / 2.55	136 / 5.92	2.7 / 0.07	0.0 / 0.00	328 / 5.38	38 / 0.79	90 / 2.54	8.1 / 1.34	0.4 / 0.02	0.5	42		601	64	195	0	DWR
E. S. Williams domestic	-18F1	6-27-63	--	1740	8.3			262 / 11.40		0.0 / 0.00	401 / 6.57		305 / 8.60			1.1				69	307	0	DWR
W. W. McClary domestic and irrigation	-18F2	6-27-63	--	1680	8.0			163 / 7.09		0.0 / 0.00	233 / 3.82		274 / 7.73			1.5				41	501	310	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$ Total ppm	Hardness as $CaCO_3$ N.C. ppm	Analyzed by c
	MDB&M							YOLO COUNTY (Cont.)															
V. White, domestic	10/2W-18L1	6-27-63	71	1300	8.1			157 / 6.83		0.0 / 0.00	220 / 3.60		179 / 5.05			2.0				50	[illegible]	[illegible]	DWR
C. A. Kutnurli[illegible], domestic	-23A1	6-27-63	[illegible]	514	8.2			39 / 1.70		0.0 / 0.00	288 / 4.72		10 / 0.28			0.5				31	191	[illegible]	DWR
D. [illegible], domestic	11N/1E-4R1	7-1-63	[illegible]	1110	8.[illegible]	26 / 1.30	[illegible] / 4.59	[illegible] / 5.78	1.6 / 0.04	[illegible]	[illegible] / 8.90	67 / 1.39	46 / 1.30	14 / [illegible]	0.7 / 0.04	[illegible]	[illegible]		6[illegible]	49	[illegible]	[illegible]	DWR
J. J. Slaven, irrigation	-17M1	7-1-63	70	[illegible]	8.3			36 / 1.57		0.0 / 0.00	305 / 5.00		9.8 / 0.28			0.6				[illegible]	[illegible]	[illegible]	DWR
D. Miller, domestic	11N/2E-32A1	7-1-63	71	1780	8.5			231 / 10.05		17 / 0.57	278 / 4.47		207 / 5.84			6.1				[illegible]	[illegible]	[illegible]	DWR
W. H. Kimmelshue, irrigation	-32G	7-1-63	68	1010	8.1	29 / 1.45	71 / 5.85	85 / 3.70	1.8 / 0.05	0.0 / 0.00	443 / 7.26	48 / 1.00	82 / 2.31	21 / 0.34	0.2 / 0.01	3.3	30		604	33	[illegible]	3	DWR
G. Durst, domestic	11N/2W-35J1	6-27-63	[illegible]	[illegible]	8.3			35 / 1.52		0.0 / 0.00	285 / 4.67		14 / 0.39							[illegible]	[illegible]	[illegible]	DWR
R. B[illegible], domestic and irrigation	11N/3W-8Q1	6-28-63	70	[illegible]	7.9	36 / 1.80	[illegible]	51 / [illegible]	1.0 / 0.02	0.0 / 0.00	187 / 3.06	56 / 1.16	90 / 2.54	7.6 / 0.12	0.2 / 0.01	0.6	57		4[illegible]	[illegible]	[illegible]	83	DWR
H. D. Everett, irrigation	-10E	6-28-63	71	[illegible]	8.1	24 / 1.[illegible]	17 / 1.38	15[illegible] / [illegible]	1.7 / 0.04	0.0 / 0.00	286 / 4.69	90 / 1.87	90 / [illegible]	1.6 / 0.02	0.4 / 0.02	2.8	[illegible]		540	71	1[illegible]9	[illegible]	DWR
G. Knolle, irrigation	-26M	7-[illegible]-63	68	[illegible]	8.1	26 / 1.30	42 / 3.45	55 / [illegible]	[illegible]	[illegible]	244 / 4.00	44 / [illegible]	[illegible]	[illegible] / 0.09	[illegible] / 0.01	1.0	4[illegible]		4[illegible]	[illegible]	[illegible]	3[illegible]	DWR
Southern Pacific Railroad, domestic	12N/1W-[illegible]N[illegible]	7-18-63	--	[illegible]	8.3			17 / 0.74		0.0 / 0.00	284 / 4.65		28 / 0.79							[illegible]	[illegible]	3[illegible]	DWR
M. Dobkins, domestic	[illegible]N/[illegible]W-2A1	7-16-63	--	868	8.4			60 / [illegible]		[illegible] / [illegible]	354 / 5.80		95 / 2.68			0.8				[illegible]	[illegible]	[illegible]	DWR
								SACRAMENTO COUNTY															
Reclamation Dist. #3, domestic	4N/3E-14F1	10-29-63	--	815	8.5	15 / 0.75	7.1 / [illegible]	177 / 7.70	1.5 / 0.04	12 / 0.40	304 / 4.98	[illegible]	[illegible] / 2.81	0.0 / 0.00	0.1 / 0.00	1.[illegible]	[illegible]		[illegible]	84	6[illegible]	[illegible]	LL
Wilmar Land Co., drainage	-[illegible]L1	10-29-63	63	[illegible]	7.[illegible]	8.4 / 0.42	5.0 / 0.41	13 / 0.57	1.5 / 0.04	0.0 / 0.00	62 / 1.01	9.6 / [illegible]	6.7 / 0.19	0.8 / 0.01	0.1 / 0.00	[illegible]	24		104	40	[illegible]	[illegible]	LL
G. R[illegible], [illegible]	-[illegible]Q1	[illegible]	--	[illegible]	7.9	[illegible] / [illegible]	[illegible]	[illegible] / [illegible]	[illegible] / [illegible]	[illegible]	111 / 1.8[illegible]	13 / [illegible]	13 / [illegible]	0.0 / [illegible]	0.1 / [illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	LL

a. Determined by addition of constituents
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U S G S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T T L.) or State Department of Water Resources (D W R) as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million												Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$		Analyzed by c
						Calcium (Ca)	Magnesium (Mg)	Sodium (No)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]			Total ppm	N.C. ppm	
						SACRAMENTO COUNTY (Cont.)																	
J. [illegible] Irrigation	5N/5E-3F1	10-23-63	--	265	8.0	52 / 1.11	11 / 0.90	25 / 1.10	1.5 / 0.04	0.0 / 0.00	169 / 2.77	4.3 / 0.09	7.4 / 0.21	0.0 / 0.00	0.1 / 0.00	0.1	40		194	35	68	6	LL
L. A. Bale Domestic and Irrigation	5N/7E-7E2	10-24-63	--	175	7.7	11 / 0.56	7.1 / 0.58	17 / 0.75	1.6 / 0.04	0.0 / 0.00	83 / 1.36	2.4 / 0.5	12 / 0.35	6.0 / 0.1	0.2 / 0.01	0.0	58		151	37	57	0	LL
Hart Ranch Irrigation	6N/6E-2AJ1	8-2-63	66	248	8.2	49 / 0.5	11 / 0.87	23 / 1.00	2.0 / 0.05	0.0 / 0.00	142 / 2.34	7.7 / 0.16	8.2 / 0.23	4.3 / 0.07	0.1 / 0.00	0.1	52		222	35	91	0	LL
R. C. Whittemore Irrigation	6N/7E-23A1	10-24-63	--	570	7.6	12 / 0.58	2.5 / 0.78	104 / 4.50	7.5 / 0.19	0.0 / 0.00	130 / 2.13	126 / 2.63	43 / 1.18	0.0 / 0.00	0.2 / 0.01	0.8	61		428	74	48	0	LL
F. J. Quest domestic	6N/8E-15J1	[illegible]-24-63	--	145	7.8	10 / 0.55	2.9 / 0.48	8.1 / 0.39	2.9 / 0.07	0.0 / 0.00	56 / 0.91	2.9 / 0.06	11 / 0.30	11 / 0.18	0.2 / 0.01	0.0	52		138	26	53	8	LL
M. Perry irrigation	7N/4E-4R1	[illegible]-63	58	191	8.2	18 / 0.89	10 / 0.82	9.4 / 0.41	2.2 / 0.06	0.0 / 0.00	121 / 1.99	1.0 / 0.02	5.0 / 0.14	0.0 / 0.00	0.1 / 0.00	0.1	35		134	17	85		LL
State of California domestic	7N/5E-7C1	7-25-63	64	255	8.2	21 / 1.07	8.6 / 0.71	19 / 0.83	2.1 / 0.05	0.0 / 0.00	152 / 2.17	4.8 / 0.10	16 / 0.46	0.0 / 0.00	0.1 / 0.00	0.0	33		166	31	89	6	LL
H. Sutter irrigation	-32J2	10-23-63	--	360	8.5	43 / 1.00	16 / 1.29	26 / 1.13	2.0 / 0.05	11 / 0.38	191 / 3.14	8.6 / 0.18	9.6 / 0.27	6.4 / 0.10	0.1 / 0.00	0.1	43		260	27	147	0	LL
W. Mouser domestic	7N/6E-22R2	7-25-63	67	220	8.2	15 / 0.76	10 / 0.85	18 / 0.80	1.4 / 0.03	0.0 / 0.00	126 / 2.07	5.8 / 0.12	6.0 / 0.17	3.0 / 0.05	0.2 / 0.01	0.0	53		172	33	80	0	LL
State of California domestic	8N/5E-15H1	7-25-63	65	355	8.2	39 / 1.92	13 / 1.10	18 / 0.80	4.1 / 0.11	0.0 / 0.00	179 / 2.94	8.6 / 0.18	30 / 0.84	0.0 / 0.00	0.1 / 0.00	0.0	47		244	20	151	4	LL
E. Pilliken domestic	8N/8E-29K1	7-25-63	64	191	7.9	13 / 0.65	5.6 / 0.46	19 / 0.83	1.0 / 0.03	0.0 / 0.00	43 / 0.69	36 / 0.74	18 / 0.49	0.0 / 0.00	0.2 / 0.01	0.1	47		182	42	55	20	LL
Hoffart Irrigation	9N/4E-1R1	8-7-63	--	295	8.5	22 / 1.12	11 / 0.93	27 / 1.17	1.8 / 0.05	7.8 / 0.26	138 / 2.26	8.2 / 0.17	18 / 0.51	1.7 / 0.03	0.1 / 0.00	0.1	58		239	36	102	0	LL
K. Kimura Irrigation	-8L1	8-6-63	--	695	8.4	49 / 2.43	38 / 3.12	69 / 3.00	2.2 / 0.06	16 / 0.52	371 / 6.08	52 / 1.08	31 / 0.88	6.4 / 0.10	0.1 / 0.00	0.4	37		482	35	277	0	LL
L. M. Swalley Irrigation	-27F1	7-24-63	--	720	8.5	37 / 1.86	22 / 1.77	85 / 3.70	5.3 / 0.14	12 / 0.40	208 / 3.42	6.7 / 0.14	128 / 3.59	0.0 / 0.00	0.1 / 0.00	0.4	39		426	50	181	0	LL
Citizens Utilities Co. municipal	9N/5E-21E1	7-24-63	--	365	8.2	24 / 1.19	13 / 1.14	35 / 1.50	4.2 / 0.08	0.0 / 0.00	142 / 2.33	8.6 / 0.18	47 / 1.32	0.0 / 0.00	0.1 / 0.00	0.3	58		264	38	117	0	LL
J. A. Rodgers domestic	9N/7E-32B1	8-28-63	--	157	7.9	13 / 0.67	7.8 / 0.64	7.2 / 0.31	0.6 / 0.02	0.0 / 0.00	81 / 1.33	4.8 / 0.10	4.3 / 0.12	2.1 / 0.03	0.1 / 0.00	0.0	41		130	19	65	0	LL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{a.a}{a.aa}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
	MDM								SACRAMENTO COUNTY (Cont.)														
H. A. Jorensen Domestic and irrigation	10N/4E-27L	8-7-63	--	330	8.2	28 / 1.39	15 / 1.22	21 / 0.90	1.5 / 0.04	0.0 / 0.00	163 / 2.67	3.8 / 0.08	27 / 0.75	0.0 / 0.00	0.1 / 0.00	0.0	57		242	25	130	0	LL
										SOLANO COUNTY													
City of Rio Vista municipal	4N/3E-31F2	5-21-63	--	814	8.3			154 / 6.70		0.0 / 0.00	252 / 5.08		64 / 1.80							73	124	0	DWR
stock	5N/1E-1N1	5-21-63	66	1975	8.7	24 / 1.22	72 / 5.85	401 / 17.40	1.5 / 0.04	32 / 1.06	502 / 8.23	197 / 4.09	392 / 11.05	1.8 / 0.03	1.0 / 0.05	1.5	18		1300	71	353	0	LL
California Packing Corp. domestic	5N/2E-25K	5-21-63	63	1510	8.3			295 / 12.83		0.0 / 0.00	1030 / 16.88		20 / 0.56							64	364	0	DWR
El Mira Fire District industrial	6N/1E-19L2	5-17-63	--	601	8.2			57 / 2.48		0.0 / 0.00	284 / 4.65		20 / 0.56							37	214	0	DWR
City of Vacaville municipal	-1N1	5-21-63	--	620	8.1	37 / 1.84	23 / 1.89	64 / 2.80	0.7 / 0.02	0.0 / 0.00	214 / 3.49	70 / 1.46	47 / 1.33	10 / 0.16	0.0 / 0.00	0.2	33		356	43	187	12	LL
City of Vacaville municipal	6N/1W-23L	5-21-63	67	592	8.2			50 / 2.18		0.0 / 0.00	300 / 4.90		13 / 0.37							35	200	0	DWR
Priddy irrigation	6N/2E-20M2	6-6-63	65	454	8.2			66 / 2.87		0.0 / 0.00	338 / 5.54		90 / 2.54							27	393	58	DWR
M. Jolly irrigation	7N/1E-36C1	6-6-63	65	995	8.4	54 / 2.68	73 / 6.00	66 / 2.87	0.8 / 0.02	0 / 0.00	515 / 8.45	67 / 1.39	50 / 1.41	11 / 0.18	0.1 / 0.00	0.2	34		624	25	434	0	LL
R. Schulze irrigation	8N/1E-26F1	6-6-63	66	627	8.3			34 / 1.48		0.0 / 0.00	366 / 5.98		16 / 0.45							21	287	0	DWR
										SAN JOAQUIN VALLEY (5-23)													
										SAN JOAQUIN COUNTY													
State of California domestic	1N/4E-3N1	8-5-63	65	1250	8.0	44 / 2.20	20 / 2.14	108 / 4.61	2.2 / 0.06	0.0 / 0.00	300 / 8.20	5.8 / 0.12	100 / 4.51	7.6 / 0.11		1.5			711	66	217		DWR
California Water Service municipal	1N/6E-4D1	9-3-63	72	607	8.0			108 / 4.70		0.0 / 0.00	215 / 3.52		83 / 2.34							83	50	0	DWR
Fibreboard Products industrial	-10P1	9-9-63	72	3180	8.1	130 / 6.49	69 / 5.14	400 / 17.40	5.6 / 0.14	0.0 / 0.00	150 / 2.46	0.1 / 0.00	951 / 26.83	2.6 / 0.04		1.0			1740	60	582	459	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as 0.0 / 0.00 except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C ppm	Analyzed by[c]
								SAN JOAQUIN COUNTY (Cont.)															
California Water Service municipal	1N/6E-14H1	8-12-63	72	587	8.2	18 / 0.90	6.6 / 0.54	74 / 4.18	1.8 / 0.05	0.0 / 0.00	189 / 3.10	0.0 / 0.00	88 / 2.48	0.6 / 0.01		0.7			378	74	72	0	DWR
Slang irrigation	1N/9E-18G1	8-13-63	68	197	7.7			13 / 0.56		0.0 / 0.00	81 / 1.33		9.5 / 0.27							30	66	[illegible]	DWR
California Water Service municipal	2N/6E-27L1	8-12-63	67	343	7.9			31 / 1.35		0.0 / 0.00	180 / 2.95		9.6 / 0.27							40	100	0	DWR
L. Denton irrigation	2N/7E-14N1	8-2-63	66	315	8.3	34 / 1.70	10 / 0.84	15 / 0.65	5.3 / 0.14	0.0 / 0.00	181 / 2.97	2.8 / 0.06	5.0 / 0.14	2.0 / 0.04		0.0			1[illegible]	20	127	0	DWR
Linden Water Service irrigation	2N/8E-15L1	7-30-63	69	221	7.9			13 / 0.56		0.0 / 0.00	120 / 1.97		4.0 / 0.11							25	85	0	DWR
F. DeBenedetti domestic and irrigation	2N/9E-7G1	7-30-63	66	269	7.9			10 / 0.44		0.0 / 0.00	135 / 2.21		6.7 / 0.19							17	111	1	DWR
Davis irrigation	3N/8E-8E1	8-20-63	69	174	7.7	12 / 0.60	4.6 / 0.38	16 / 0.70	2.6 / 0.07	0.0 / 0.00	76 / 1.24	1.0 / 0.02	8.8 / 0.25	6.4 / 0.10		0.0			172	40	49	[illegible]	DWR
M. T. Co-op domestic	4N/4E-14C1	8-2-63	71	1020	7.7			163 / 7.09		0.0 / 0.00	228 / 3.74		212 / 5.98							86	59	0	DWR
W. Southern irrigation	4N/5E-8H1	8-2-63	62	5440	7.9	284 / 14.17	221 / 18.20	512 / 22.27	3.5 / 0.09	0.0 / 0.00	177 / 2.90	0.0 / 0.00	1800 / 50.76	1.4 / 0.03		0.8			2880	41	1620	1480	DWR
Jahant Ranch domestic	4N/6E-11P1	8-2-63	66	220	7.8			11 / 0.48		0.0 / 0.00	118 / 1.93		5.6 / 0.16							22	85	0	DWR
K. Elston domestic and irrigation	4N/7E-23B3	8-2-63	69	471	6.9	38 / 1.90	18 / 1.46	27 / 1.17	2.5 / 0.06	0.0 / 0.00	184 / 3.02	3.4 / 0.07	44 / 1.24	10 / 0.16		0.0			312	25	168	17	DWR
R. Nichols irrigation	5N/5E-33J1	8-2-63	61	371	8.0			59 / 2.57		0.0 / 0.00	217 / 3.56		9.5 / 0.27							69	59	0	DWR
A. T. Sims irrigation	5N/8E-31J1	8-2-63	70	182	7.4			14 / 0.61		0.0 / 0.00	89 / 1.46		5.8 / 0.16							34	58	0	DWR
California Packing Corporation domestic	1S/4E-14M1	8-5-63	66	1500	8.3			237 / 10.31		0.0 / 0.00	259 / 4.24		183 / 5.16							74	140	0	DWR
L. Brooks domestic	1S/5E-10H2	8-5-63	70	1380	8.3	96 / 4.79	40 / 3.30	129 / 5.44	3.7 / 0.[illegible]	0.0 / 0.00	299 / 4.90	76 / 1.58	256 / 7.22	1.0 / 0.02		0.2			809	40	405	160	DWR

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-1 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
									SAN JOAQUIN COUNTY (Cont.)														
G. S. Calcagno domestic and irrigation	1S/6E-4A1	8-5-63	68	1980	7.4	160 / 7.98	50 / 4.11	149 / 6.05	3.1 / 0.08	0.0 / 0.00	175 / 2.87	26 / 0.54	550 / 14.68	0.0 / 0.00		0.2			1270	33	609	461	DWR
W. P. J. Lynch irrigation	1S/7E-10A1	8-5-63	66	274	8.0	24 / 1.20	7.3 / 0.60	21 / 0.91	4.1 / 0.10	0.0 / 0.00	132 / 2.16	7.7 / 0.16	1.[illegible] / 0.34	5.[illegible] / 0.08		0.1			224	32	[illegible]0	0	DWR
irrigation	1S/7E-8H1	8-2-63	70	228	7.7			16 / 0.70		0.0 / 0.00	91 / 1.49		12 / 0.34							33	[illegible]0	0	DWR
A. Dusina domestic	2S/4E-1P1	7-24-63	74	635	8.0	29 / 1.45	7.9 / 0.65	87 / 3.78	1.9 / 0.05	0.0 / 0.00	1.[illegible] / 1.74	130 / 2.71	49 / 1.38	6.4 / 0.10		0.0			397	64	109	18	DWR
West Side Irrigation District irrigation	2S/5E-22Q1	7-31-63	70	1390	8.0	71 / 3.54	36 / 2.97	154 / 6.70	3.6 / 0.09	0.0 / 0.00	148 / 2.59	169 / 3.52	240 / 6.77	2[illegible] / 0.[illegible]		1.4			841	50	326	196	DWR
West Side Irrigation District irrigation	-23P1	7-31-63	64	1990	7.9	114 / 5.74	66 / 5.39	195 / 8.48	3.4 / 0.08	0.0 / 0.00	255 / 4.18	237 / 4.93	348 / 9.82	32 / 0.56		2.0			1200	43	557	347	DWR
West Side Irrigation District drainage	-29D1	7-24-63	66	2030	7.9			182 / 7.92		0.0 / 0.00	382 / 6.26		314 / 8.86			1.5				39	620	[illegible]0	DWR
State of California domestic and irrigation	2S/6E-[illegible]0J5	7-26-63	72	1180	8.0	54 / 2.69	24 / 1.97	1[illegible] / 6.70	3.6 / 0.09	0.0 / 0.00	162 / 2.66	1[illegible] / 3.73	198 / 5.58	2.0 / 0.03		0.6			704	[illegible]8	234	101	DWR
W. E. Lee domestic	2S/7E-20R1	7-26-63	69	5[illegible]2	8.1	94 / 2.69	15 / 1.23	31 / 1.34	3.8 / 0.10	0.0 / 0.00	2[illegible] / 3.38	26 / 0.54	21 / 0.59	30 / 0.63		0.1			361	25	196	[illegible]7	DWR
L. Huck domestic	3S/5E-8L1	7-31-63	--	[illegible]90	7.9		73 / 3.[illegible]		0.0 / 0.00	156 / 2.50		100 / 2.09				0.9			248	39	248	120	DWR
Gerlach irrigation	-14D1	7-31-63	68	1[illegible]0	8.0	77 / 3.94	41 / 3.37	1[illegible] / 5.60	2.6 / 0.07	0.0 / 0.00	175 / 2.87	1[illegible] / 3.[illegible]	102 / 2.70	45 / 0.72		0.9			840	43	376	[illegible]2	DWR
J. Brichetto irrigation	-26M	7-31-63	--	1[illegible]0	8.1			114 / 4.96		0.0 / 0.00	200 / 3.28		70 / 1.97			1.0				38	[illegible]04	240	DWR
Banta Carbona Irr.Dist [illegible]ation	3S/6E-7F1	7-26-63	[illegible]	1[illegible]0	7.9	93 / 4.64	41 / 3.37	[illegible]2 / 10.[illegible]	[illegible]2 / 0.07	0.0 / 0.00	261 / 4.28	[illegible]04 / 4.[illegible]	318 / 8.97	22 / 0.35		2.9			1110	56	402	188	DWR
J. Hamilt[illegible] irrigati[illegible]	-[illegible]Q1	7-26-63	77	695	[illegible].[illegible]			67 / 2.91		0.0 / 0.00	[illegible]9 / [illegible].[illegible]		36 / 1.03			0.6			43	195	32	DWR

a. Determined by addition of constituents
b. Gravimetric determination
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as 0.0/0.00 except as shown

TABLE E-2

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C ppm	Analyzed by c
						LAHONTAN REGION (NO. 6)																	
						SURPRISE VALLEY (6-1)																	
	MDB&M																						
L. Cockrell domestic	40N/16E-11G1	8-7-63		205	8.2	24 / 1.22	4.5 / 0.37	13 / 0.55	1.6 / 0.04	0.0 / 0.00	132 / 2.17	1.4 / 0.03	0.0 / 0.00	1.6 / 0.03	0.1 / 0.01	0.1	20		128	25	80	0	LL
D. I. Grove domestic	-36F1	8-7-63		240	7.8	22 / 1.12	8.1 / 0.67	20 / 0.87	1.9 / 0.05	0.0 / 0.00	155 / 2.55	5.8 / 0.12	0.0 / 0.00	0.0 / 0.00	0.2 / 0.01	0.1	36		150	32	90	0	LL
J. Biconda irrigation	-36G1	8-7-63	56	270	8.0	49 / 1.47	11 / 0.87	15 / 0.65	2.1 / 0.05	0.0 / 0.00	187 / 3.07	1.4 / 0.03	0.0 / 0.00	1.3 / 0.02	0.1 / 0.01	0.0	39		193	21	117	0	LL
B. Cambron stock - fish pond	40N/17E-20C1	8-7-63	56	365	8.3	24 / 1.20	63 / 0.52	44 / 1.90	6.0 / 0.15	1 / 0.03	141 / 2.32	35 / 0.73	22 / 0.61	1.2 / 0.02	0.2 / 0.01	0.2	48		264	50	86	0	LL
Surprise Valley Lumber Co.-domestic	42N/16E-6R2	8-6-63		330	8.4	41 / 2.03	14 / 1.11	14 / 0.61	0.9 / 0.02	2 / 0.07	209 / 3.43	6.2 / 0.13	3.5 / 0.10	2.4 / 0.04	0.1 / 0.01	0.0	27		230	16	157	0	LL
J. B. Laxague domestic - stock	-21L1	8-7-63	56	225	8.2	25 / 0.26	2.4 / 0.20	23 / 1.00	0.8 / 0.02	0.0 / 0.00	142 / 2.34	3.4 / 0.07	0.0 / 0.00	1.6 / 0.03	0.1 / 0.01	0.1	21		150	40	73	0	LL
E. Cook domestic	-34F1	8-7-63	60	265	8.3	15 / 0.76	2.6 / 0.21	47 / 2.05	2.8 / 0.07	2 / 0.05	177 / 2.90	0.0 / 0.00	0.0 / 0.00	2.8 / 0.05	0.1 / 0.01	0.1	26		194	66	48	0	LL
G. W. Warren domestic	43N/16E-20B1	8-6-63		263	8.2	4.2 / 0.21	0.0 / 0.00	59 / 2.55	0.6 / 0.02	0.0 / 0.00	159 / 2.60	3.8 / 0.08	2.5 / 0.07	5.3 / 0.09	0.2 / 0.01	0.0	20		186	92	11	0	LL
F. Arreche domestic - stock	-33M1	8-6-63		260	8.0	17 / 0.86	1.8 / 0.15	44 / 1.90	0.6 / 0.02	0.0 / 0.00	164 / 2.68	4.8 / 0.10	2.5 / 0.07	4.4 / 0.07	0.2 / 0.01	0.1	20		190	65	51	0	LL
L. Hanks domestic	45N/16E-17D1	8-6-63		255	8.1	33 / 1.65	8.6 / 0.71	11 / 0.48	1.8 / 0.0	0.0 / 0.00	165 / 2.70	1.4 / 0.03	1.8 / 0.05	0.0 / 0.00	0.1 / 0.01	0.0	46		200	17	118	0	LL
L. Hill domestic - irrigation	-19Q1	8-6-63	66	300	8.4	25 / 1.24	9.2 / 0.76	31 / 1.35	3.2 / 0.08	1 / 0.03	192 / 3.15	4.8 / 0.10	6.0 / 0.17	1.2 / 0.02	0.1 / 0.01	0.1	39		232	29	100	0	LL
R. W. Peterson domestic	46N/16E-13C1	8-6-63		450	8.3	38 / 1.92	14 / 1.15	46 / 2.00	7.8 / 0.20	4 / 0.12	255 / 4.18	27 / 0.57	12 / 0.33	0.0 / 0.00	0.2 / 0.01	0.3	42		324	38	153	0	LL
J. Stockesberry stock	-25R2	8-6-63		420	8.3	21 / 1.06	8.0 / 0.66	58 / 2.50	8.9 / 0.24	3 / 0.10	173 / 2.84	33 / 0.68	25 / 0.71	1.3 / 0.02	0.4 / 0.02	0.3	57		320	56	86	0	LL
H. Talbott irrigation	-29E1	8-6-63	56	520	8.5	0.4 / 0.02	0.0 / 0.00	130 / 5.65	1.9 / 0.05	6 / 0.20	282 / 4.61	9.1 / 0.19	17 / 0.47	3.1 / 0.05	1.6 / 0.03	0.6	40		370	99	1	0	LL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lain Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-2 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C ppm	Analyzed by c
	MDB&M					MADELINE PLAINS (6-2)																	
T. Garate stock	34N/15E-21L1	7-16-63	56	137	8.0	6.0 / 0.30	0.7 / 0.06	23 / 1.00	3.9 / 0.10	0.0 / 0.00	80 / 1.32	1.4 / 0.03	1.1 / 0.03	1.2 / 0.02	0.1 / 0.01	0.1	18		96	68	18	0	LL
Unknown stock	35N/12E-24R1	7-16-63	54	1020	8.3	16 / 0.80	37 / 3.02	150 / 6.52	21 / 0.54	0.0 / 0.00	463 / 7.59	96 / 2.00	46 / 1.30	0.6 / 0.01		0.2			626	60	191	0	LL
State of California domestic	35N/13E-26J1	7-16-63	53	684	8.4	28 / 1.40	38 / 3.10	61 / 2.65	9.2 / 0.24	3 / 0.10	354 / 5.80	16 / 0.33	18 / 0.51	33 / 0.53		0.1			412	36	225	0	LL
P. C. Fredrickson stock	35N/16E-18E1	7-16-63	52	630	8.6	13 / 0.66	5.8 / 0.48	123 / 5.35	15 / 0.40	10 / 0.32	356 / 5.84	4.3 / 0.09	15 / 0.43	2.4 / 0.04	0.4 / 0.02	0.0	47		426	78	57	0	LL
Dodge Ranch stock	-19E1	7-16-63	53	340	8.3	10 / 0.50	2.6 / 0.21	65 / 2.83	4.7 / 0.12	2 / 0.05	196 / 3.21	1.9 / 0.04	8.9 / 0.25	1.6 / 0.03	0.2 / 0.01	0.0	44		240	77	35	0	LL
						HONEY LAKE VALLEY (6-4)																	
L. Garnier irrigation	26N/16E-15E1	7-18-63	59	520	8.1	42 / 2.12	12 / 0.96	65 / 2.83	3.7 / 0.09	0.0 / 0.00	207 / 3.40	106 / 2.18	15 / 0.42	3.8 / 0.06	0.6 / 0.03	0.3	30		388	47	154	0	LL
R. L. Slaughter domestic-commercial	27N/14E-26E1	7-18-63		185	7.5	18 / 0.91	2.4 / 0.20	18 / 0.80	2.5 / 0.06	0.0 / 0.00	77 / 1.27	13 / 0.28	7.1 / 0.20	15 / 0.24	0.1 / 0.01	0.0	39		154	41	55	0	LL
Town of Janesville irrigation	28N/13E-9E1	7-18-63		190	7.6	23 / 1.13	5.1 / 0.42	11 / 0.48	1.1 / 0.03	0.0 / 0.00	86 / 1.42	1.9 / 0.04	2.1 / 0.06	30 / 0.48	0.1 / 0.01	0.0	38		170	23	77	6	LL
State of California irrigation	28N/14E-2G1	7-17-63	55	940	8.6	26 / 1.32	11 / 0.85	198 / 8.60	5.0 / 0.13	15 / 0.50	336 / 5.50	63 / 1.32	120 / 3.38	1.1 / 0.02	0.2 / 0.01	0.4	40		628	79	108	0	LL
Triami Cattle Corp. domestic	-17B1	7-18-63		520	8.5	31 / 1.56	12 / 0.96	94 / 4.10	3.0 / 0.08	12 / 0.40	328 / 5.37	15 / 0.31	8.5 / 0.31	16 / 0.24	0.1 / 0.26	0.2 / 0.01	38		400	61	126	0	LL
Tanner Ranch domestic	28N/15E-6K1	7-17-63	59	1800	8.0	89 / 4.46	74 / 6.09	295 / 12.83	5.2 / 0.13	0.0 / 0.00	581 / 9.51	471 / 9.81	151 / 4.25	0.4 / 0.01	0.6 / 0.03	0.5	36		1466	55	527	52	LL
Honey Lake Ranch public fountain	28N/17E-18K1	7-17-63	61	245	8.2	10 / 0.49	0.9 / 0.07	46 / 2.00	4.6 / 0.12	0.0 / 0.00	113 / 1.85	17 / 0.35	9.6 / 0.27	4.0 / 0.06	0.1 / 0.01	0.1	32		180	76	28	0	LL
E. Filipeli irrigation	-20J1	7-17-63	78	262	8.2	10 / 0.47	1.0 / 0.08	45 / 1.95	5.1 / 0.13	0.0 / 0.00	122 / 2.00	14 / 0.29	9.6 / 0.27	1.6 / 0.03	0.1 / 0.01	0.1	32		180	74	27	0	LL
M. A. Mallery domestic	29N/12E-15A1	7-18-63		200	7.9	21 / 1.07	5.0 / 0.41	16 / 0.70	1.2 / 0.03	0.0 / 0.00	129 / 2.11	5.8 / 0.12	0.0 / 0.00	2.2 / 0.04	0.1 / 0.01	0.0	41		160	32	74	0	LL
G. Brabham domestic	29N/13E-14G1	7-17-63		550	8.3	13 / 0.66	3.8 / 0.31	114 / 4.95	3.4 / 0.09	2 / 0.06	196 / 3.22	22 / 0.46	39 / 1.10	78 / 1.26	0.4 / 0.02	0.3	48		432	82	48	0	LL

a. Determined by addition of constituents
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D W R) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{a.a}{a.a.a}$ except as shown

TABLE E-2 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
						HONEY LAKE VALLEY (6-4) (Con't.)																	
	MDB&M																						
Prudham Ranch domestic	29N/14E-4N1	7-17-63	60	700	8.6	14 / 0.69	4.0 / 0.33	139 / 6.05	11 / 0.29	16 / 0.52	313 / 5.14	57 / 1.18	21 / 0.60	5.3 / 0.09	0.2 / 0.01	0.4	53		504	81	51	0	LL
M. Long domestic	29N/14E-18R1	7-17-63		900	8.6	8.2 / 0.41	6.0 / 0.49	208 / 9.05	6.2 / 0.16	6 / 0.20	308 / 5.05	194 / 4.04	27 / 0.75	9.2 / 0.15	0.8 / 0.04	0.8	44		682	89	45	0	LL
State of California irrigation	29N/15E-21N1	7-17-63	61	870	8.7	10 / 0.48	5.6 / 0.46	202 / 8.80	4.7 / 0.12	20 / 0.66	431 / 7.07	3.9 / 0.08	52 / 1.45	19 / 0.31	0.4 / 0.02	0.5	52		586	89	47	0	LL
J. Dewitt domestic	-30A2	7-17-63		540	8.6	12 / 0.60	3.9 / 0.32	125 / 5.43	4.1 / 0.11	12 / 0.40	351 / 5.75	9.6 / 0.20	5.3 / 0.15	1.1 / 0.02	0.2 / 0.01	0.5	34		388	84	46	0	LL
California-Pacific Utility Co.- industrial	30N/12E-33N2	7-18-63	70	195	8.0	19 / 0.95	7.0 / 0.57	10 / 0.43	2.3 / 0.06	0.0 / 0.00	118 / 1.93	1.4 / 0.03	2.5 / 0.07	0.0 / 0.00	0.1 / 0.01	0.0	26		134	21	76	0	LL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-2 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
								SOUTH TAHOE VALLEY 6-5.01															
	MDB&M																						
South Tahoe Public Utility District domestic	12N/18E-3A1	9-17-63		118	7.4	14 / 0.70	2.2 / 0.18	6.3 / 0.27	0.9 / 0.02	0.0 / 0.00	57 / 0.93	1.2 / 0.02	4.7 / 0.13	1.4 / 0.02		0.0			75	23	44	0	DWR
F. Parker domestic	-3C1	9-17-63		70	7.0	6.8 / 0.34	2.4 / 0.20	4.7 / 0.20	0.5 / 0.01	0.0 / 0.00	41 / 0.67	1.0 / 0.02	0.5 / 0.01	0.2 / 0.00		0.0			52	27	27	0	DWR
Tahoe Sierra Water Co. - municipal	-3F1	9-17-63		130	7.4	17 / 0.85	2.3 / 0.19	6.2 / 0.27	0.6 / 0.02	0.0 / 0.00	75 / 1.23	2.1 / 0.04	0.2 / 0.00	0.4 / 0.01		0.0			95	20	52	0	DWR
C. Gregor domestic	-3J1	9-17-63		72	7.0	8.3 / 0.41	1.3 / 0.11	4.7 / 0.20	0.7 / 0.02	0.0 / 0.00	41 / 0.67	1.6 / 0.03	0.2 / 0.00	0.1 / 0.00		0.0			48	27	26	0	DWR
R. Doud domestic	-5L1	9-17-63		101	7.4	10 / 0.51	2.4 / 0.20	6.7 / 0.29	0.7 / 0.02	0.0 / 0.00	63 / 1.03	0.5 / 0.01	0.0 / 0.00	0.1 / 0.00	0.0 / 0.00	0.0	28		80	29	35	0	LL
Garden Mt. Water Co. municipal	-5P1	9-17-63		98	7.0	4.4 / 0.22	1.6 / 0.13	13 / 0.57	0.4 / 0.01	0.0 / 0.00	50 / 0.82	7.7 / 0.16	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	20		68	61	17	0	LL
State of California domestic	-29L1	9-17-63		80	7.0	8.4 / 0.42	0.6 / 0.05	8.3 / 0.36	1.4 / 0.04	0.0 / 0.00	47 / 0.76	4.3 / 0.09	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	21		60	41	23	0	LL
								NORTH TAHOE VALLEY 6-5.02															
R. E. Rauscher domestic	14N/16E-1C1	9-24-63		135	7.6	17 / 0.86	3.2 / 0.26	4.4 / 0.19	0.7 / 0.02	0.0 / 0.00	79 / 1.30	2.9 / 0.06	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	25		86	14	56	0	LL
G. Minor domestic	-1K1	9-24-63		130	7.7	16 / 0.78	4.9 / 0.40	4.0 / 0.18	1.3 / 0.03	0.0 / 0.00	86 / 1.41	1.4 / 0.03	0.0 / 0.00	0.4 / 0.01	0.2 / 0.01	0.0	30		100	13	59	0	LL
V. L. Douglass domestic	15N/16E-24A1	9-24-63		165	7.5	17 / 0.85	7.3 / 0.61	3.9 / 0.17	1.4 / 0.04	0.0 / 0.00	96 / 1.56	0.0 / 0.00	3.5 / 0.10	3.1 / 0.05	0.1 / 0.00	0.0	26		116	10	73	0	LL
T. Stollery domestic	-25C1	9-24-63		160	7.0	17 / 0.84	6.0 / 0.49	5.0 / 0.22	1.2 / 0.03	0.0 / 0.00	93 / 1.51	3.4 / 0.07	1.4 / 0.04	1.4 / 0.02	0.1 / 0.00	0.0	29		120	14	67	0	LL
State of California domestic	15N/17E-6J1	9-24-63		167	7.9	15 / 0.74	8.4 / 0.69	5.6 / 0.24	3.2 / 0.08	0.0 / 0.00	110 / 1.80	0.5 / 0.01	0.7 / 0.02	0.0 / 0.00	0.1 / 0.00	0.0	28		122	14	72	0	LL
Tahoe City Lumber Co. domestic	-7E1	9-24-63		110	7.4	12 / 0.58	4.4 / 0.36	4.5 / 0.20	1.7 / 0.04	0.0 / 0.00	66 / 1.08	2.4 / 0.05	2.5 / 0.07	0.0 / 0.00	0.1 / 0.00	0.0	19		72	17	47	0	LL
Winding Creek Mutual Water Co.-domestic	16 N/16E-28E1	9-25-63		183	4.5	19 / 0.93	4.6 / 0.38	7.2 / 0.31	0.9 / 0.02	0.0 / 0.00	0.0 / 0.00	89 / 1.86	1.1 / 0.03	0.0 / 0.00	0.1 / 0.00	0.1	28		162	19	65	0	LL
State of California domestic	-32D1	9-25-63		210	7.9	34 / 1.68	1.6 / 0.13	6.7 / 0.29	0.7 / 0.02	0.0 / 0.00	74 / 1.22	35 / 0.72	9.2 / 0.26	1.3 / 0.02	0.1 / 0.00	0.0	10		148	13	90	29	LL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (P.C.C.), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-2 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by[c]
						NORTH TAHOE VALLEY 6-5.02 (Con't.)																	
	MDB&M																						
Riolo Club domestic	16N/17E-13H1	9-24-63	49	105	7.7	8.0 0.40	6.3 0.52	3.4 0.15	0.4 0.01	0.0 0.00	62 1.02	0.0 0.00	0.0 0.00	3.1 0.05	0.1 0.00	0.0	33		90	14	46	0	LL
Bennett hot springs	16N/18E-30B1	9-24-63	132	565	8.0	4.0 0.20	1.6 0.13	125 5.43	3.3 0.08	0.0 0.00	94 1.53	38 0.81	119 3.35	0.0 0.00	3.0 0.15	3.1	58		408	93	17	0	LL
						CARSON VALLEY 6-6																	
A. Riggs domestic	11N/19E-24B1	9-17-63		134	7.5	14 0.71	1.9 0.16	10 0.44	1.5 0.04	0.0 0.00	76 1.25	1.0 0.02	0.0 0.00	4.3 0.07	0.1 0.00	0.0	26		96	33	43	0	LL
Alpine County School District-domestic	-35D2	9-17-63		118	7.0	13 0.67	1.5 0.12	8.9 0.39	1.9 0.05	0.0 0.00	69 1.14	5.3 0.11	0.0 0.00	0.0 0.00	0.1 0.00	0.0	15		76	32	40	0	LL
Alpine County School District-domestic	11N/20E-7M1	9-17-63		114	7.0	13 0.67	1.8 0.15	6.1 0.27	2.2 0.06	0.0 0.00	57 0.93	2.9 0.06	1.1 0.03	7.1 0.11	0.1 0.00	0.0	22		86	24	41	0	LL
						TRUCKEE VALLEY 6-6.7																	
Truckee Public Utility District municipal	17N/16E-8M1	9-25-63		130	7.5	13 0.66	6.7 0.55	3.4 0.15	1.1 0.03	0.0 0.00	83 1.37	2.4 0.05	0.0 0.00	0.4 0.01	0.1 0.00	0.0	27		90	11	60	0	LL
Truckee Public Utility District municipal	-14F1	9-25-63		130	7.4	10 0.51	7.4 0.61	3.8 0.17	0.9 0.02	0.0 0.00	80 1.32	1.0 0.02	0.0 0.00	0.0 0.00	0.2 0.01	0.0	24		86	13	56	0	LL
Truckee Public Utility District municipal	-15G1	9-25-63		133	8.0	12 0.60	7.9 0.65	4.5 0.20	0.8 0.02	0.0 0.00	92 1.50	0.5 0.01	0.0 0.00	0.0 0.00	0.1 0.00	0.1	29		104	14	62	0	LL
Truckee Public Utility District municipal	-16L1	9-25-63		170	7.5	19 0.94	6.3 0.52	5.0 0.22	2.4 0.06	0.0 0.00	87 1.43	3.4 0.07	8.9 0.25	0.9 0.01	0.1 0.00	0.0	28		126	13	73	1	LL
State of California domestic	-17F1	9-25-63		125	7.4	13 0.65	4.3 0.35	6.1 0.27	2.8 0.07	0.0 0.00	62 1.01	3.8 0.08	5.0 0.14	1.0 0.02	0.1 0.00	0.0	22		86	20	50	0	LL
						TOPAZ VALLEY 6-7																	
D. Radley domestic	8N/23E-16P1	9-18-63		250	8.1	22 1.12	6.3 0.52	2.5 1.10	3.0 0.08	0.0 0.00	159 2.60	8.6 0.18	1.4 0.04	3.5 0.06	0.2 0.01	0.1	20		168	39	82	0	LL
H. W. Huffman domestic	-23E3	9-18-63		275	7.5	20 1.00	0.7 0.06	39 1.70	1.4 0.04	0.0 0.00	84 1.39	41 0.85	15 0.42	1.4 0.02	1.6 0.04	0.2	19		178	61	53	0	LL

a. Determined by addition of constituents.
b. Gravimetric determination.
c. Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (PCC), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated.
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-2 (cont)

ANALYSES OF GROUND WATER

1963

Owner and use	State well number and other number	Date sampled	Temp in °F	Specific conductance (micromhos at 25° C)	pH	Mineral constituents in parts per million / equivalents per million: Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Carbonate (CO_3)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Fluoride (F)	Boron (B)	Silica (SiO_2)	Other constituents[d]	Total dissolved solids in ppm	Percent sodium	Hardness as $CaCO_3$: Total ppm	Hardness as $CaCO_3$: N.C. ppm	Analyzed by c
											POTAZ VALLEY (cont.)												
	4N/24E-4																						
[illegible] County Road Dept.-domestic	5N/23E-29C2	9-18-63		130	7.3	13 / 0.63	2.6 / 0.22	9.4 / 0.41	1.3 / 0.03	0.0 / 0.00	71 / 1.25	5.3 / 0.11	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	10		74	31	44	0	[illegible]
H. William[illegible] domestic	5N/22E-24D1	9-18-63		144	7.7	14 / 0.68	2.9 / 0.24	14 / 0.61	1.4 / 0.04	0.0 / 0.00	83 / 1.36	2.4 / 0.05	2.5 / 0.07	0.0 / 0.00	0.4 / 0.02	0.1	26		102	39	46	0	LL
E. Kinsey domestic	-24A1	9-18-63		210	8.0	20 / 0.98	5.5 / 0.45	17 / 0.75	2.1 / 0.05	0.0 / 0.00	117 / 1.92	11 / 0.23	1.8 / 0.05	3.1 / 0.05	0.2 / 0.01	0.1	23		146	3[illegible]	[illegible]	0	[illegible]
L. Madewell domestic	5N/24E-20P1	9-18-63		[illegible]	8.2	30 / 1.49	3.6 / 0.30	22 / 0.95	1.0 / 0.03	0.0 / 0.00	100 / 1.61	8.6 / 0.18	0.4 / 0.01	1.3 / 0.02	0.4 / 0.02	0.2	34		172	3[illegible]	[illegible]	C	[illegible]
A. Sciarani domestic	-20C2	9-18-63		[illegible]	7.8	12 / 0.59	1.9 / 0.16	54 / 2.35	2.1 / 0.05	0.0 / 0.00	96 / 1.57	16 / 0.34	41 / 1.15	0.0 / 0.00	2.6 / 0.10	2.4	26		190	70	31	0	LL
											BRIX-REPORT VALLEY (cont.)												
Buckeye [illegible] Springs	4N/24E-4A1	9-17-63		1450	8.2	12 / 0.58	4.4 / 0.36	314 / 13.70	11 / 0.29	19 / 0.63	359 / 5.89	44 / 0.94	31 / 0.88	0.0 / 0.00	2.0 / 0.03	1.1	47		974	96	47	0	[illegible]
[illegible]dwell Ranch domestic	-13F[illegible]	9-17-63		99	7.4	14 / 0.69	1.5 / 0.12	3.9 / 0.17	1.6 / 0.04	0.0 / 0.00	59 / 0.98	2.9 / 0.06	0.0 / 0.00	0.0 / 0.00	0.1 / 0.00	0.0	18		65	1	46	0	LL
O. F. Blackburn domestic	4N/25E-4R1	9-18-63		740	8.0	47 / 2.36	21 / 1.70	87 / 3.80	14 / 0.37	0.0 / 0.00	101 / 2.04	243 / 5.07	22 / 0.62	0.0 / 0.00	0.4 / 0.03	0.3	67		600	46	204	72	L[illegible]
J. Van Dyck domestic	-4F1	9-17-63		2500	8.2	25 / 1.24	26 / 2.14	580 / 25.20	46 / 1.04	0.0 / 0.00	861 / 14.12	589 / 12.27	130 / 4.03	0.0 / 0.00	1.2 / 0.02	2.7	60		1864	85	149	0	LL
K. C. Stewart domestic	5N/25E-28K1	9-18-63		420	8.2	38 / 1.90	13 / 1.08	36 / 1.55	11 / 0.29	0.0 / 0.00	238 / 3.90	34 / 0.71	23 / 0.67	1.4 / 0.02	0.1 / 0.00	0.1	45		304	32	149	5	LL
Bridgeport P.U.D. municipal	-28C1	9-18-63		370	8.1	30 / 1.51	8.6 / 0.71	29 / 1.27	10 / 0.27	0.0 / 0.00	190 / 3.12	24 / 0.47	4.3 / 0.12	1.4 / 0.02	0.1 / 0.00	[illegible]	91		256	34	111	0	L[illegible]

a Determined by addition of constituents
b. Gravimetric determination
c Analysis by U.S. Geological Survey, Quality of Water Branch (U.S.G.S.), Pacific Chemical Consultants (PCC), Lein Laboratory (L.L.), Terminal Testing Laboratory (T.T.L.) or State Department of Water Resources (D.W.R.) as indicated
d. Iron (Fe), Aluminum (Al), Arsenic (As), Copper (Cu), Lead (Pb), Manganese (Mn), Zinc (Zn), reported here as $\frac{0.0}{0.00}$ except as shown

TABLE E-3
RADIOASSAY OF GROUND WATER
1963

Well number	Date sampled	Gross activity[a]	Date analyzed
CENTRAL VALLEY REGION (NO. 5)			
LAKE ALMANOR VALLEY (5-7)			
M.D.B. & M.			
28N/7E-5L1	8/13/63	8.8 ± 5.1	9/17/63
28N/7E-5N1	8/13/63	2.2 ± 5.0	9/17/63
28N/7E-7A1	8/13/63	5.7 ± 5.1	9/17/63
28N/7E-7H1	8/13/63	8.5 ± 5.1	9/17/63
28N/7E-18B1	8/13/63	4.4 ± 5.0	9/17/63
28N/7E-18D1	8/13/63	7.1 ± 5.1	9/17/63
28N/7E-18M1	8/13/63	0.0 ± 5.0	9/17/63
INDIAN VALLEY (5-9)			
26N/10E-4E1	8/14/63	5.1 ± 5.1	9/17/63
26N/10E-6E1	8/14/63	0.0 ± 5.0	9/17/63
26N/10E-16P1	8/14/63	2.4 ± 4.9	9/17/63
26N/10E-18M1	8/14/63	0.0 ± 4.9	9/17/63
26N/10E-23A1	8/14/63	0.0 ± 5.0	9/17/63
26N/10E-27R1	8/14/63	1.9 ± 5.1	9/17/63
26N/10E-28M1	8/14/63	0.0 ± 5.1	9/17/63
26N/10E-30F1	8/14/63	0.0 ± 5.1	9/17/63
27N/9E-35P1	8/14/63	4.3 ± 5.1	9/17/63

a – Micromicrocuries per liter

TABLE E-3 (cont)
RADIOASSAY OF GROUND WATER
1963

Well number	Date sampled	Gross activity[a]	Date analyzed
AMERICAN VALLEY (5-10)			
M.D.B. & M.			
24N/9E-2A1	8/14/63	6.5 ± 5.1	9/17/63
24N/9E-10H1	8/13/63	1.3 ± 5.1	9/17/63
24N/9E-10L1	8/13/63	2.0 ± 5.1	9/17/63
24N/9E-16H1	8/13/63	0.0 ± 4.9	9/17/63
24N/10E-6N1	8/14/63	10.1 ± 4.8	9/18/63
24N/10E-8L1	8/14/63	0.0 ± 4.8	9/18/63
24N/10E-18D1	8/14/63	10.3 ± 4.8	9/18/63
24N/10E-19B1	8/13/63	3.1 ± 4.8	9/18/63
24N/10E-19D1	8/13/63	12.1 ± 4.9	9/18/63
24N/10E-20D1	8/14/63	6.9 ± 4.8	9/18/63
SACRAMENTO VALLEY (5-21)			
Solano County			
4N/3E-31F2	5/21/63	0.9 ± 3.6	8/7/63
5N/1E-1N1	5/21/63	1.7 ± 3.6	8/7/63
5N/2E-25K	5/21/63	0.0 ± 3.6	8/7/63
6N/1E-19L2	5/17/63	6.0 ± 3.6	8/7/63
6N/1E-19Q1	5/21/63	0.0 ± 3.6	8/7/63
6N/2E-20H2	6/6/63	0.7 ± 3.6	8/7/63
6N/1W-23L	5/21/63	1.2 ± 3.6	8/7/63
7N/1E-36C1	6/6/63	7.2 ± 3.6	8/7/63
8N/1E-26F1	6/6/63	8.3 ± 3.6	8/7/63

a – Micromicrocuries per liter

TABLE E-3 (cont)
RADIOASSAY OF GROUND WATER
1963

Well number	Date sampled	Gross activity[a]	Date analyzed
		Yuba County	
M.D.B. & M.			
13N/5E-4B2	7/18/63	0.0 ± 4.8	9/19/63
14N/4E-7M1	7/23/63	0.0 ± 4.8	9/19/63
14N/4E-22H1	7/23/63	0.9 ± 4.8	9/19/63
14N/5E-15C1	7/18/63	0.0 ± 4.8	9/19/63
14N/5E-16C1	7/18/63	0.0 ± 4.8	9/19/63
14N/5E-21G1	7/18/63	9.2 ± 4.9	9/19/63
14N/5E-22M1	7/18/63	1.0 ± 4.8	9/19/63
14N/5E-30J	7/18/63	13.3 ± 5.0	9/19/63
15N/4E-20J	7/23/63	0.0 ± 4.8	9/17/63
15N/4E-31A1	7/23/63	0.0 ± 4.7	9/19/63
15N/5E-19N1	7/23/63	6.0 ± 4.9	9/19/63
16N/3E-11N1	7/19/63	8.0 ± 4.9	9/19/63
16N/3E-11R2	7/19/63	0.0 ± 4.8	9/19/63
16N/3E-23B1	7/19/63	6.2 ± 5.0	9/19/63
16N/3E-26Q1	7/19/63	0.0 ± 4.8	9/19/63
16N/4E-9D1	7/18/63	0.2 ± 4.9	9/19/63

a – Micromicrocuries per liter

TABLE E-3 (cont)
RADIOASSAY OF GROUND WATER
1963

Well number	Date sampled	Gross activity[a]	Date analyzed
		Yolo County	
M.D.B. & M.			
6N/3E-25A1	7/23/63	4.0 ± 4.6	11/7/63
6N/3E-25A2	7/23/63	0.0 ± 4.5	11/7/63
7N/3E-9J1	7/15/63	0.0 ± 4.6	11/27/63
7N/3E-31M1	7/15/63	14.9 ± 4.9	11/15/63
7N/4E-33G1	7/23/63	5.3 ± 4.7	11/15/63
8N/1E-9E1	7/9/63	0.0 ± 4.6	11/15/63
8N/2E-13F2	7/15/63	6.8 ± 4.7	11/7/63
8N/3E-5P1	7/23/63	0.0 ± 4.6	11/15/63
8N/3E-5Q1	7/23/63	1.7 ± 4.6	11/15/63
8N/3E-19D1	7/15/63	6.1 ± 4.7	11/15/63
8N/3E-19M2	7/15/63	6.5 ± 4.7	11/15/63
8N/4E-3B1	7/23/63	1.5 ± 4.6	11/15/63
8N/1W-13G1	6/25/63	0.0 ± 4.6	11/17/63
9N/1E-12A1	6/25/63	5.2 ± 4.6	11/15/63
9N/2E-10D1	7/10/63	5.0 ± 4.6	11/15/63
9N/3E-7D2	7/29/63	2.1 ± 4.6	11/15/63
9N/4E-33L1	7/23/63	8.9 ± 4.8	11/15/63
9N/1W-16H1	6/25/63	4.3 ± 4.6	11/15/63
9N/1W-30L1	6/25/63	0.0 ± 4.5	11/15/63
10N/1E-1C1	7/12/63	10.0 ± 4.8	11/15/63
10N/1E-15G1	6/25/63	3.8 ± 4.7	11/15/63

a — Micromicrocuries per liter

TABLE E-3 (cont)
RADIOASSAY OF GROUND WATER
1963

Well number	Date sampled	Gross activity[a]	Date analyzed
		Yolo County (Continued)	
M.D.B. & M.			
10N/2E-1Q1	7/1/63	0.0 ± 4.6	11/8/63
10N/2E-27H1	7/1/63	0.0 ± 4.7	11/8/63
10N/1W-4D1	6/27/63	0.0 ± 4.7	11/8/63
10N/1W-36K2	6/25/63	0.0 ± 4.7	11/8/63
10N/2W-16L1	6/27/63	11.1 ± 4.8	11/8/63
10N/2W-17J2	6/27/63	0.0 ± 4.6	11/8/63
10N/2W-18F1	6/27/63	1.3 ± 4.6	11/8/63
10N/2W-18F2	6/27/63	0.0 ± 4.6	11/8/63
10N/2W-18L1	6/27/63	0.0 ± 4.5	11/8/63
10N/2W-23A1	6/27/63	2.6 ± 4.6	11/8/63
11N/1E-4R1	7/18/63	10.1 ± 4.7	11/8/63
11N/1E-17M1	7/1/63	9.1 ± 4.6	11/8/63
11N/2E-22A1	7/1/63	8.1 ± 4.7	11/8/63
11N/2E-32G	7/1/63	3.1 ± 4.6	11/8/63
11N/2W-35J1	6/27/63	6.9 ± 4.7	11/8/63
11N/3W-9Q1	6/28/63	4.9 ± 4.6	11/8/63
11N/3W-10E2	6/28/63	1.1 ± 4.5	11/8/63
11N/3W-26M3	7/2/63	4.5 ± 4.6	11/8/63
12N/1W-15N2	7/18/63	2.6 ± 4.6	11/8/63
12N/2W-2A1	7/18/63	8.0 ± 4.6	11/8/63

a – Micromicrocuries per liter

TABLE E-3 (cont)
RADIOASSAY OF GROUND WATER
1963

Well number	Date sampled	Gross activity[o]	Date analyzed
SAN JOAQUIN VALLEY (5-22)			
San Joaquin County			
M.D.B. & M.			
1N/4E-3N1	8/5/63	5.2 ± 4.6	11/26/63
1N/6E-4D1	9/3/63	5.6 ± 4.6	11/26/63
1N/6E-10P1	9/9/63	11.3 ± 4.7	11/26/63
1N/6E-14H1	8/12/63	9.7 ± 4.7	11/26/63
1N/9E-18G1	8/13/63	8.6 ± 4.6	11/26/63
2N/6E-27L1	8/12/63	5.6 ± 4.6	11/26/63
2N/7E-14N1	8/2/63	3.7 ± 4.5	11/26/63
2N/8E-15L1	7/30/63	2.6 ± 4.5	11/26/63
2N/9E-7G1	7/30/63	0.0 ± 4.6	11/26/63
3N/8E-8E1	8/2/63	3.5 ± 4.7	11/26/63
4N/4E-14C1	8/2/63	0.0 ± 4.6	11/26/63
4N/5E-8H1	8/2/63	0.0 ± 4.6	11/26/63
4N/6E-11P1	8/2/63	0.0 ± 4.7	11/26/63
4N/7E-23B3	8/2/63	0.0 ± 4.6	11/26/63
5N/5E-33J1	8/2/63	0.0 ± 4.6	11/26/63
5N/8E-31J1	8/2/63	0.4 ± 4.7	11/26/63
1S/4E-14M1	8/5/63	2.8 ± 4.7	11/26/63
1S/5E-10H2	8/5/63	4.4 ± 4.7	11/26/63
1S/6E-4A1	8/5/63	2.8 ± 4.7	11/26/63
1S-7E-10A1	8/5/63	0.0 ± 4.6	11/26/63
1S-9E-8H1	8/2/63	10.0 ± 4.7	11/26/63

o – Micromicrocuries per liter

TABLE E-3 (cont)
RADIOASSAY OF GROUND WATER
1963

Well number	Date sampled	Gross activity[a]	Date analyzed
San Joaquin County (Continued)			
M.D.B. & M.			
2S/4E-1P1	7/24/63	46.7 ± 5.3	11/26/63
2S/5E-22Q1	7/31/63	125.3 ± 6.4	11/26/63
2S/5E-23P1	7/31/63	0.0 ± 4.5	11/26/63
2S/5E-29D1	7/24/63	0.0 ± 4.6	12/12/63
2S/6E-20J5	7/26/63	0.0 ± 4.7	12/12/63
2S/7E-20R1	7/26/63	33.6 ± 5.2	12/12/63
3S/5E-8L1	7/31/63	6.7 ± 4.8	12/12/63
3S/5E-14D1	7/31/63	1.5 ± 4.8	12/12/63
3S/5E-26M	7/31/63	0.0 ± 4.7	12/12/63
3S/6E-7F1	7/26/63	4.2 ± 4.8	12/12/63
3S/6E-22Q1	7/26/63	0.0 ± 4.7	12/12/63

a – Micromicrocuries per liter

Stations sl

1
2
3
4
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6
7
8
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12
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16
17
18
19

Stations o

Note: For
see

PLATE D-1

SALINITY OBSERVATION STATION.

Stations shown on map:

1 Spoonbill Creek
2 Pittsburg
3 Collinsville
4 Emmaton
5 Threemile Slough Bridge
6 Rio Vista Bridge
7 Isleton Bridge
8 Antioch
9 Antioch Bridge
10 Jersey Island
11 Threemile Slough
12 Oulton Point
13 San Andreas Landing
14 Opposite Central Landing
15 Dutch Slough
16 East Contra Costa Irrigation District
17 Clifton Court Ferry
18 Mossdale Bridge
19 Vernalis

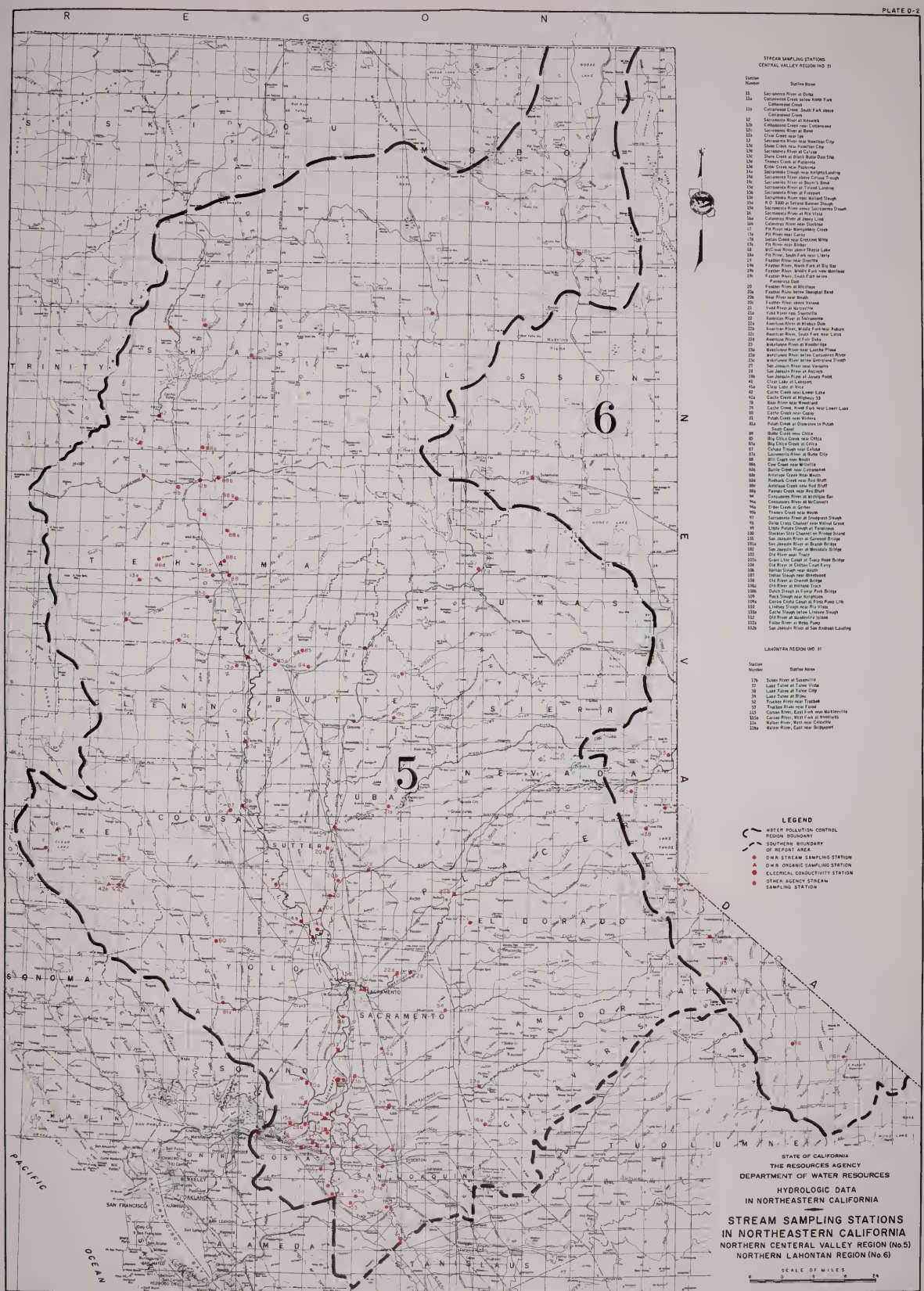
Stations off map:

Sobrante Beach
Crockett
Benicia
Martinez
West Suisun
Innisfail Ferry
Port Chicago

Note: For description of station locations see Table D-10

STREAM SAMPLING STATIONS
CENTRAL VALLEY REGION (NO. 5)

Station Number	Station Name
11	Sacramento River at Delta
11a	Cottonwood Creek below North Fork Cottonwood Creek
11b	Cottonwood Creek, South Fork above Cottonwood Creek
12	Sacramento River at Keswick
12b	Cottonwood Creek near Cottonwood
12c	Sacramento River at Bend
12d	Clear Creek near Igo
13	Sacramento River near Hamilton City
13a	Stony Creek near Hamilton City
13b	Sacramento River at Colusa
13c	Stony Creek at Black Butte Dam Site
13d	Thomes Creek at Paskenta
13e	Elder Creek near Paskenta
14a	Sacramento Slough near Knights Landing
14b	Sacramento River above Colusa Trough
14c	Sacramento River at Beyer's Bend
15a	Sacramento River at Toland Landing
15b	Sacramento River at Freeport
15c	Sacramento River near Walland Slough
15d	R.D. 1000 at Second Bannon Slough
15e	Sacramento River above Sacramento Slough
16	Sacramento River at Rio Vista
16a	Calaveras River at Jenny Lind
16b	Calaveras River near Stockton
17	Pit River near Montgomery Creek
17a	Pit River near Canby
17c	Indian Creek near Crescent Mills
17e	Pit River near Bieber
18	McCloud River above Shasta Lake
18a	Pit River, South Fork near Likely
19	Feather River near Oroville
19b	Feather River, North Fork at Big Bar
19b	Feather River, Middle Fork near Merrimac
19c	Feather River, South Fork below Ponderosa Dam
20	Feather River at Nicolaus
20a	Feather River below Shanghai Bend
20b	Bear River near Mouth
20c	Feather River above Verona
21	Yuba River at Marysville
21a	Yuba River near Smartsville
22	American River at Sacramento
22a	American River at Nimbus Dam
22b	American River, Middle Fork near Auburn
22c	American River, South Fork near Lotus
22d	American River at Fair Oaks
23	Mokelumne River at Woodbridge
23a	Mokelumne River near Lancha Plana
23b	Mokelumne River below Cosumnes River
23c	Mokelumne River below Georgiana Slough
27	San Joaquin River near Vernalis
28	San Joaquin River at Antioch
28b	San Joaquin River at Jersey Point
41	Clear Lake at Lakeport
41a	Clear Lake at Nice
42	Cache Creek near Lower Lake
42a	Cache Creek at Highway 53
78	Bear River near Wheatland
79	Cache Creek, North Fork near Lower Lake
80	Cache Creek near Capay
81	Putah Creek near Winters
81a	Putah Creek at Diversion to Putah South Canal
84	Butte Creek near Chico



STREAM SAMPLING STATIONS
CENTRAL VALLEY REGION (NO. 5)

Station Number	Station Name
11	Sacramento River at Delta
11a	Cottonwood Creek below Hatchet Fork Cottonwood Creek
11b	Cottonwood Creek South Fork above Cottonwood Creek
12	Sacramento River at Keswick
12b	Cottonwood Creek near Cottonwood
12c	Sacramento River at Bend
12d	Clear Creek near Igo
13	Sacramento River near Hamilton City
13d	Stony Creek near Hamilton City
13e	Sacramento River at Colusa
13f	Stony Creek at Black Butte Dam Site
13g	Thomes Creek at Paskenta
13h	Elder Creek near Paskenta
14a	Sacramento Slough near Knights Landing
14b	Sacramento River above Colusa Trough
14c	Sacramento River at Boyer's Bend
15a	Sacramento River at Tisdale Landing
15b	Sacramento River at Freeport
15c	Sacramento River near Walnut Slough
15d	P.G. 1660 at Verona Bypass Slough
15e	Sacramento River at Rio Vista
15f	Sacramento River at Rio Vista
16a	Cottonwood River at Jones Line
16b	Cottonwood River near Stanhope
17	Pit River near Montgomery Creek
17a	Pit River near Canby
17b	Indian Creek near Crescent Mitty
17c	Pit River near Bieber
18	McCloud River above Shasta Lake
18a	Pit River, South Fork near Liberty
19	Feather River near Oroville
19b	Feather River, North Fork at Big Bar
19c	Feather River, Middle Fork near Montana Feather River, South Fork below Ponderosa Dam
20	Feather River at Nicolaus
20a	Feather River below Shanghai Bend
20b	Bear River near Wheatland
20c	Feather River above Verona
21	Yuba River at Marysville
21a	Yuba River near Smartsville
22	American River at Nimbus Dam
22a	American River at Folsom Dam
22b	American River, Middle Fork near Auburn
22c	American River, South Fork near Lotus
22d	American River at Fair Oaks
23	Mokelumne River at Woodbridge
23a	Mokelumne River near Lockeford
23b	Mokelumne River below Camanche Reservoir
23c	Mokelumne River below Camanche Trough
27	San Joaquin River near Vernalis
28	San Joaquin River at Antioch
28b	San Joaquin River at Jersey Point
41	Clear Lake at Lakeport
41a	Clear Lake at Nice
42	Cache Creek near Lower Lake
42a	Cache Creek at Highway 53
78	Bear River near Wheatland
79	Cache Creek, North Fork near Lower Lake
80	Cache Creek near Capay
81	Putah Creek near Winters
81a	Putah Creek at Diversion to Putah South Canal
84	Butte Creek near Chico
85	Big Chico Creek near Chico
87a	Big Chico Creek at Chico
87	Colusa Trough near Colusa
87a	Sacramento River at Butte City
88	Mill Creek near Vina
88a	Cow Creek near Millville
88b	Battle Creek near Cottonwood
88c	Antelope Creek near Red Bluff
88d	Redbank Creek near Red Bluff
88e	Antelope Creek near Red Bluff
88g	Paynes Creek near Red Bluff
94	Cosumnes River at Michigan Bar
94a	Cosumnes River at McConnell
94b	Elder Creek at Gerber
95b	Thomes Creek near Vina
97	Sacramento River at Snodgrass Slough
98	Delta Cross Channel near Walnut Grove
99	Little Potato Slough at Terminous
100	Stockton Ship Channel at Rindge Island
101	San Joaquin River at Garwood Bridge
101a	San Joaquin River at Brandt Bridge
102	San Joaquin River at Mossdale Bridge
103	Old River near Tracy
103a	Grant Line Canal at Tracy Road Bridge
104	Old River at Clifton Court Ferry
106	Middle River at Howard
107	Indian Slough near Brentwood
108	Old River at Orwood Bridge
108a	Old River at Bishop Tract
108b	Dutch Slough at Tomar Park Bridge
109	Mark Slough near Knightsen
109a	Contra Costa Canal at First Pump Lift
110	Lindsey Slough near Rio Vista
110a	Cache Slough below Lindsey Slough
112	Old River at Mandeville Island
112a	Fabian River at Weber Pump
113b	San Joaquin River at San Andreas Landing

LAHONTAN REGION (NO. 6)

Station Number	Station Name
17b	Susan River at Susanville
37	Lake Tahoe at Tahoe Vista
37	Lake Tahoe at Tahoe City
38	Lake Tahoe at Stateline
52	Truckee River near Truckee
53	Truckee River near Farad
115	Carson River, East Fork near Markleeville
115a	Carson River, West Fork at Woodfords
11b	Walker River, West near Coleville
11ba	Walker River, East near Bridgeport

LEGEND

- WATER POLLUTION CONTROL REGION BOUNDARY
- SOUTHERN BOUNDARY OF REPORT AREA
- DWR STREAM SAMPLING STATION
- DWR ORGANIC SAMPLING STATION
- ELECTRICAL CONDUCTIVITY STATION
- OTHER AGENCY STREAM SAMPLING STATION

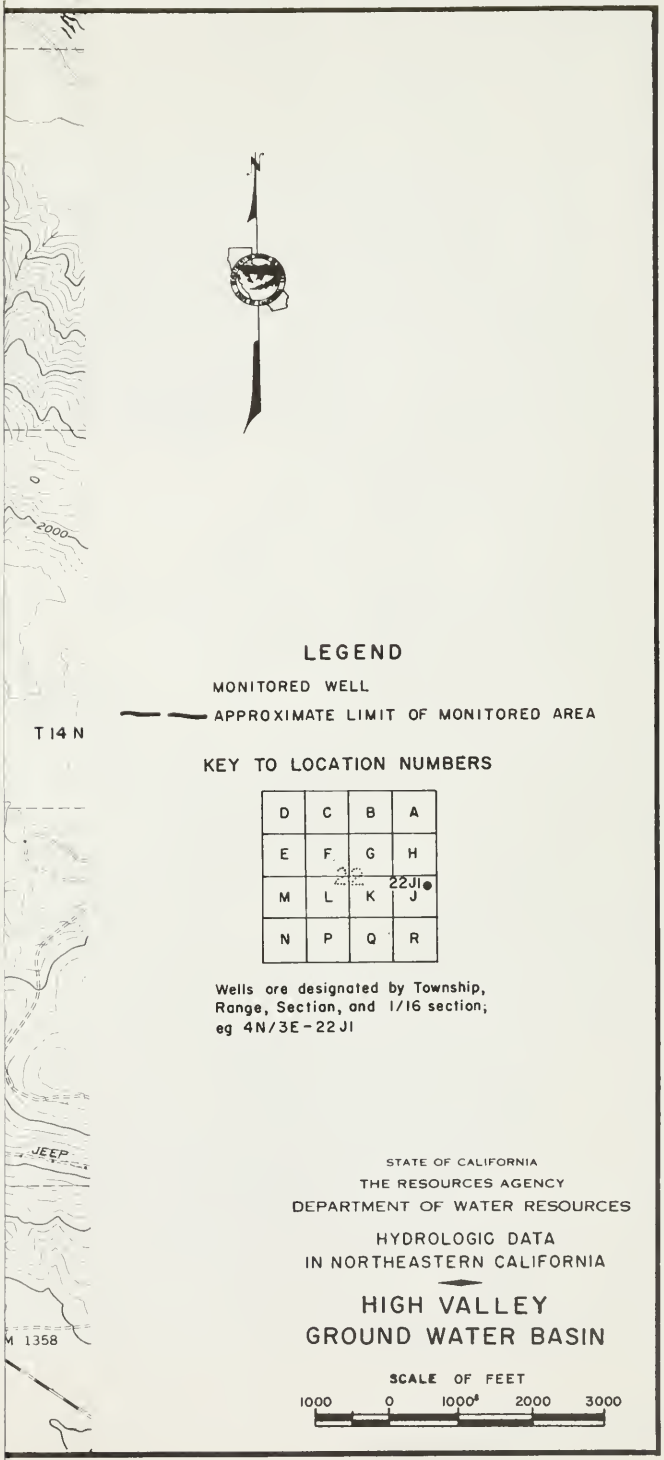
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

HYDROLOGIC DATA
IN NORTHEASTERN CALIFORNIA

STREAM SAMPLING STATIONS IN NORTHEASTERN CALIFORNIA

NORTHERN CENTERAL VALLEY REGION (No.5)
NORTHERN LAHONTAN REGION (No.6)

SCALE OF MILES
0 12 24



LEGEND

MONITORED WELL

APPROXIMATE LIMIT OF MONITORED AREA

KEY TO LOCATION NUMBERS

D	C	B	A
E	F	G	H
M	L	K	22J1 J
N	P	Q	R

Wells are designated by Township, Range, Section, and 1/16 section; eg 4N/3E-22J1

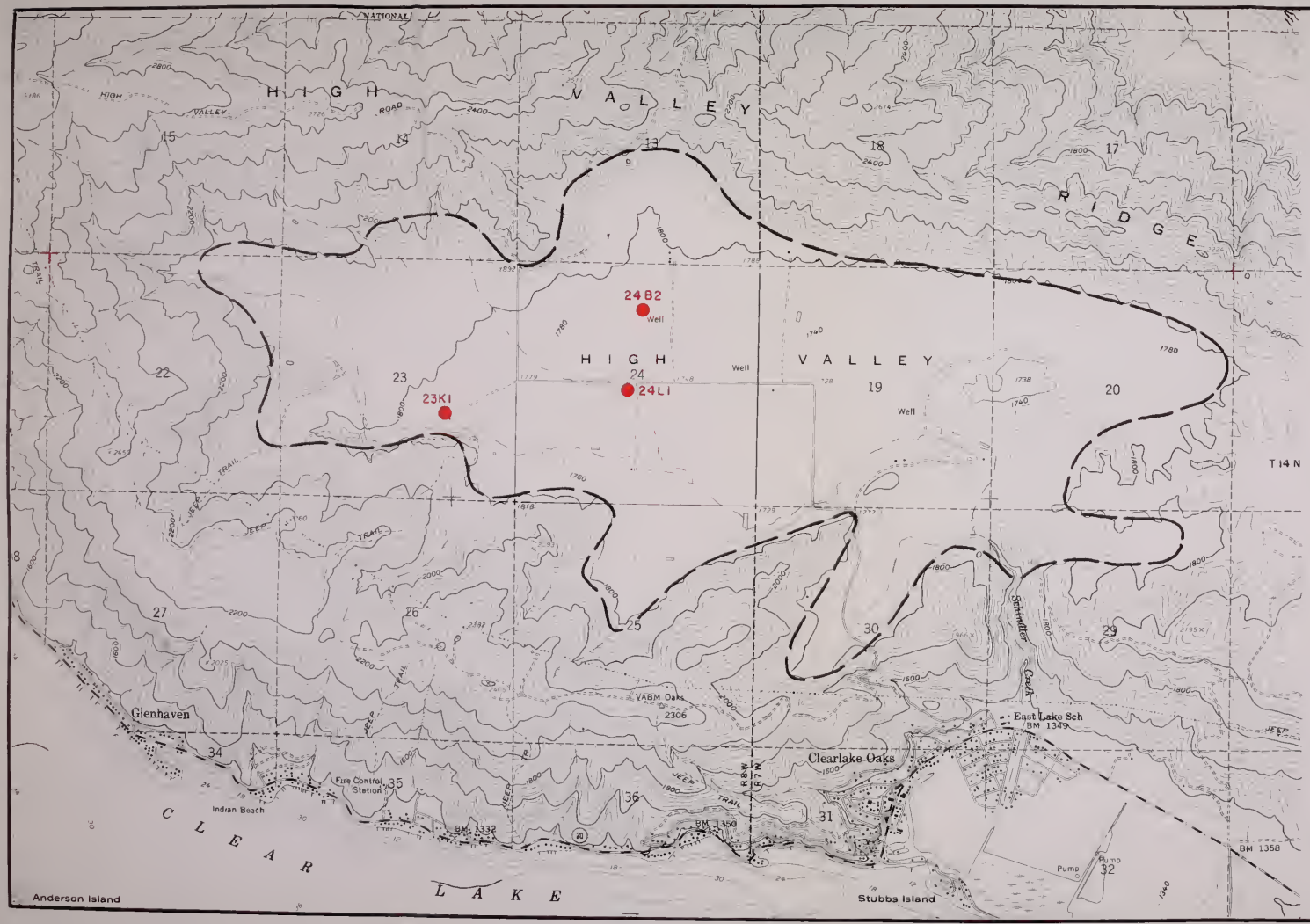
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

HYDROLOGIC DATA
IN NORTHEASTERN CALIFORNIA

HIGH VALLEY
GROUND WATER BASIN

SCALE OF FEET

1000 0 1000 2000 3000



LEGEND

MONITORED WELL

APPROXIMATE LIMIT OF MONITORED AREA

KEY TO LOCATION NUMBERS

D	C	B	A
E	F	G	H
M	L	K	22J J
N	P	Q	R

Wells are designated by Township, Range, Section, and 1/16 section, eg 4N/3E-22J1

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

HYDROLOGIC DATA
IN NORTHEASTERN CALIFORNIA

HIGH VALLEY
GROUND WATER BASIN

SCALE OF FEET
1000 0 1000 2000 3000

LEGEND

MONITORED WELL

APPROXIMATE LIMIT OF MONITORED AREA

KEY TO LOCATION NUMBERS

D	C	B	A
E	F	G	H
M	L	K	22J1 J
N	P	Q	R

Wells are designated by Township, Range, Section, and 1/16 section; eg 4N/3E-22J1

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

HYDROLOGIC DATA
IN NORTHEASTERN CALIFORNIA

BURNS VALLEY
GROUND WATER BASIN

SCALE OF FEET

1000 0 1000 2000 3000

LEGEND

MONITORED WELL

APPROXIMATE LIMIT OF MONITORED AREA

KEY TO LOCATION NUMBERS

D	C	B	A
E	F	G	H
M	L	K	22J J
N	P	Q	R

Wells are designated by Township, Range, Section, and 1/16 section; eg 4N/3E-22J1

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

HYDROLOGIC DATA
IN NORTHEASTERN CALIFORNIA

BURNS VALLEY GROUND WATER BASIN

SCALE OF FEET

1000 0 1000 2000 3000

PLATE E-3

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

HYDROLOGIC DATA
NORTHEASTERN CALIFORNIA

GROUND WATER BASINS IN NORTHEASTERN CALIFORNIA

NORTHERN CENTRAL VALLEY REGION
NORTHERN LAHONTAN REGION

INDE

CENTR

5-1.00 GC
5-2.00 AL
5-4.00 BI
5-5.00 FA
5-6.00 RE
5-7.00 LA
5-9.00 IN
5-10.00 AN
5-11.00 MC
5-12.00 SI
5-13.00 UE
5-15.00 KE
5-16.00 HI
5-17.00 BU
5-21.00 SA
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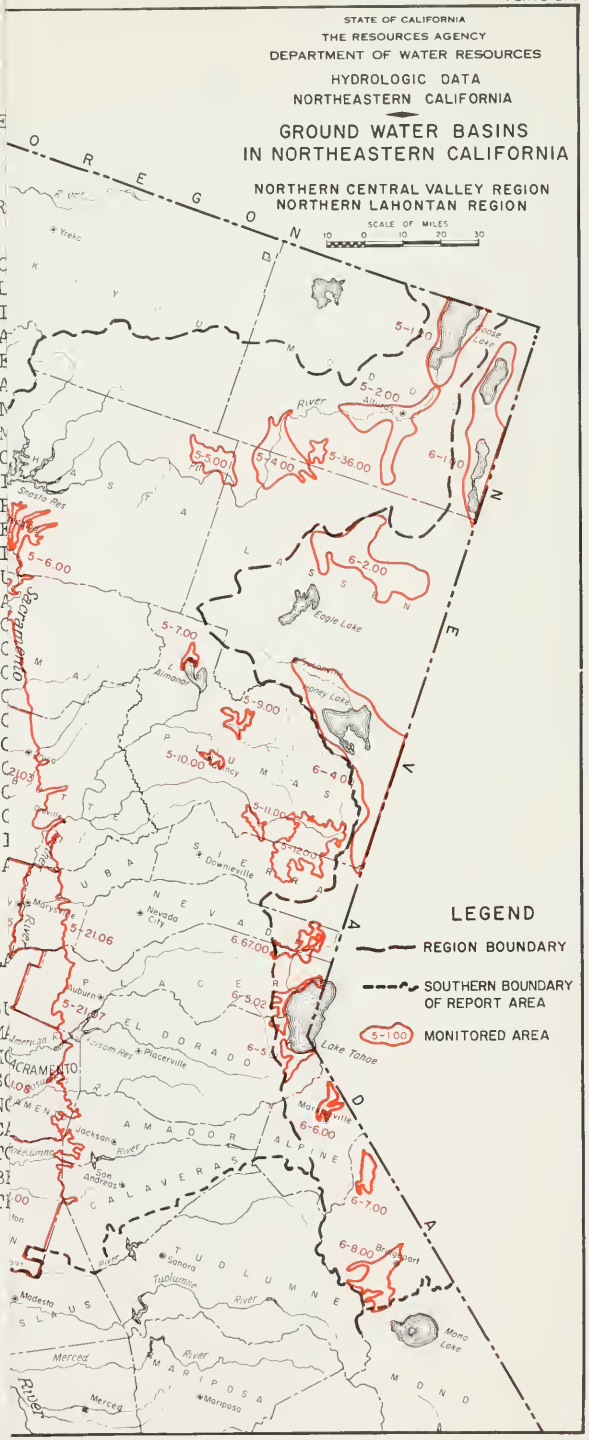
5-21.C
5-21.1
5-22.00 SA
LA

6-1.00 SU
6-2.00 MI
6-4.00 KC
6-5.01 SC
6-5.02 NC
6-6.00 CH
6-7.00 TC
6-8.00 BI
6-67.00 TI



INDEX OF MONITORED AREAS

CENTRAL VALLEY REGION (NO. 5)

5-1.00 GOOSE LAKE VALLEY
5-2.00 ALTURAS BASIN
5-4.00 BIG VALLEY
5-5.00 FALL RIVER VALLEY
5-6.00 REDDING BASIN
5-7.00 LAKE ALMANOR VALLEY
5-9.00 INDIAN VALLEY
5-10.00 AMERICAN VALLEY
5-11.00 MOHAWK VALLEY
5-12.00 SIERRA VALLEY
5-13.00 UPPER LAKE VALLEY
5-15.00 KELSEYVILLE VALLEY
5-16.00 HIGH VALLEY
5-17.00 BURNS VALLEY
5-21.00 SACRAMENTO VALLEY
- 5-21.01 TEHAMA COUNTY
- 5-21.02 GLENN COUNTY
- 5-21.03 BUTTE COUNTY
- 5-21.04 COLUSA COUNTY
- 5-21.05 SUTTER COUNTY
- 5-21.06 YUBA COUNTY
- 5-21.07 PLACER COUNTY
- 5-21.08 SACRAMENTO COUNTY
- 5-21.09 YOLO COUNTY
- 5-21.11 SOLANO COUNTY

5-22.00 SAN JOAQUIN VALLEY
SAN JOAQUIN COUNTY

LAHONTAN REGION (NO. 6)

6-1.00 SURPRISE VALLEY
6-2.00 MADELINE PLAINS
6-4.00 HONEY LAKE VALLEY
6-5.01 SOUTH TAHOE VALLEY
6-5.02 NORTH TAHOE VALLEY
6-6.00 CARSON VALLEY
6-7.00 TOPAZ VALLEY
6-8.00 BRIDGEPORT VALLEY
6-67.00 TRUCKEE VALLEY

PLATE E-3

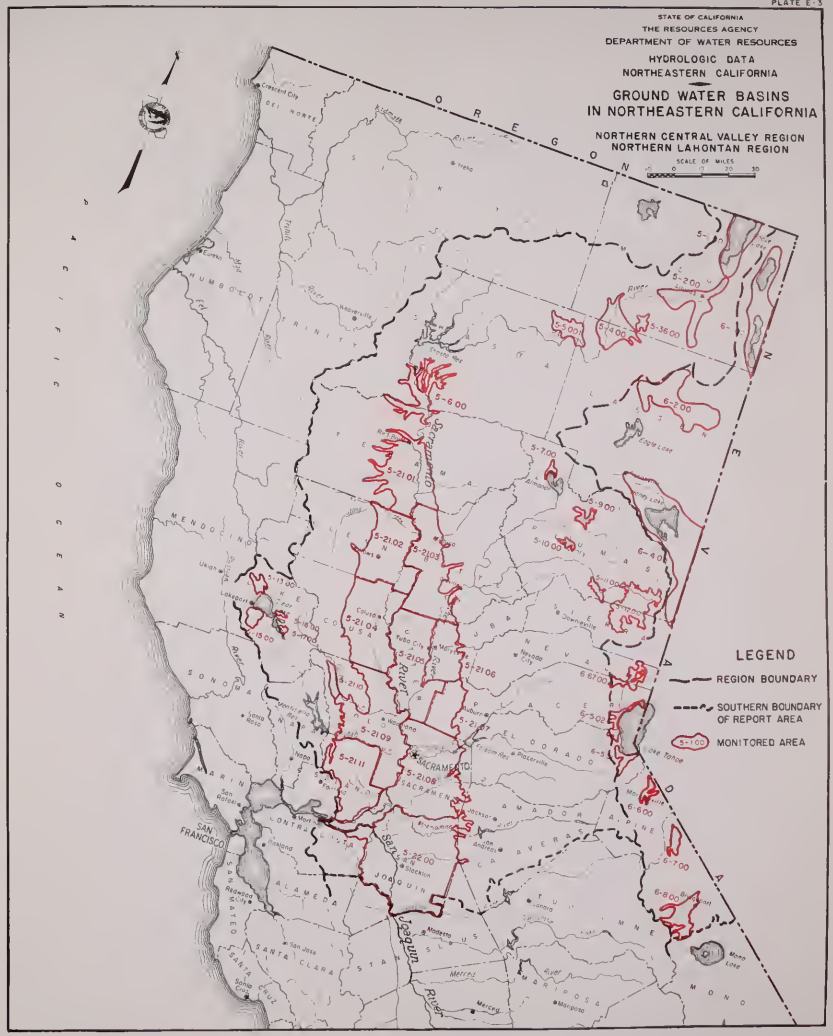
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

HYDROLOGIC DATA
NORTHEASTERN CALIFORNIA

GROUND WATER BASINS
IN NORTHEASTERN CALIFORNIA

NORTHERN CENTRAL VALLEY REGION
NORTHERN LAHONTAN REGION

SCALE OF MILES
0 10 20 30



LEGEND
- REGION BOUNDARY
- SOUTHERN BOUNDARY OF REPORT AREA
- 5-1.00 MONITORED AREA

PD

V

R.D